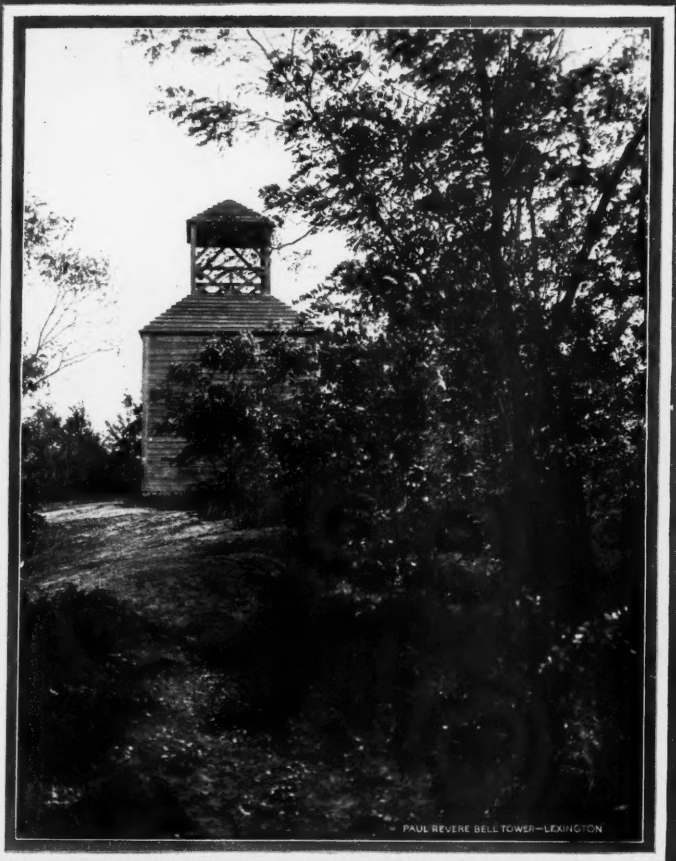
APR 18 1924

THE DENTAL DIGEST



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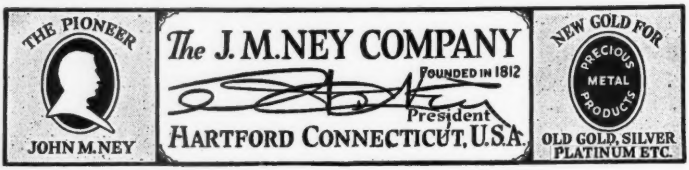
REMOVE

In 1874

FOUNDED in 1812, THE J. M. NEY COMPANY soon took leadership in the manufacture of precious metals, not only for dentists but for the various arts and industries. As an incident in its history, we note that in 1874, from an ingot the size of an old-fashioned watch, this firm worked out a carpet of gold that was used to cover the great dome of Connecticut's Capitol, a square distant from the present Ney plant.

One more evidence of the truth of the slogan, ***"Best since 1812."***



THE
DENTAL DIGEST

Vol. XXX APRIL, 1924 No. 4

Dr. Box Discovers a New Disease Process

(Editor's Note: There have appeared in some important daily papers, in the United States, articles referring to recent discoveries by Dr. Harold K. Box. These articles were not prepared by Dr. Box or with his knowledge or consent. They anticipate presentation which Dr. Box will make in the usual professional manner.

An unfortunate aspect of the matter is that the articles may be misunderstood by the laity and lead them to expect new forms of treatment for gingivitis, when, as a matter of fact, the discoveries have nothing whatever to do with treatment.

Some of the articles might lead members of the profession to suspect a rivalry between Dr. Box and Drs. Stillman and McCall for the honor of making the discovery. No such rivalry exists. Dr. Box made the discovery. He regards it as supporting a theory advanced by Drs. Stillman and McCall which states that traumatic occlusion will finally destroy the peridental tissues.

To place the matter correctly before the profession, the following article has been prepared under the direction of Dr. Paul R. Stillman.)

If Harold K. Box, D.D.S., L.D.S., Ph.D., F.A.A.P., were as well known to the members of the profession in general as he is to the groups of specialists who are prepared to appreciate the remarkable work he has done in microscopy and dental histology, even this brief note of introduction would be superfluous. But because this will come to the eyes of many who know but little about him and his work, it is well to say that he is a graduate of The Royal College of Dental Surgeons, Toronto, Ontario, and that soon after his graduation he was elected to a professorship in his Alma Mater and devoted himself to research work.

He soon became interested in the histology and pathology of the peridental tissues and during the next ten years made about 3500 microscopic slides by an entirely new laboratory technic, which yielded especially fine results. No serious attempts at interpretations of the slides were made, when they were taken.

When the number of slides was considered sufficient, an era of intensive study was begun which has been fruitful in results. The first findings were published as a bulletin by the Canadian Research Foundation. The story of the evolution of the pus pocket was first published in a similar bulletin and also in the book "Clinical Periodontia" by Stillman and McCall.

Three important papers by Dr. Box are now in the hands of the editors of The Journal of Dental Research, through which magazine it is expected that Dr. Box's account of his new discovery will be given to the profession. The titles are as follows:

The Dentinal—Cemental Junction

This paper will show that the cementum of the apical third of a tooth is not a homogeneous structure but that it contains large bone cells and a passage from the pericementum through the cementum into the pulp, so that the pulp in this portion of the tooth has two sources of nutrition.

Fig. 1*

The illustration above exhibits white areas which were unidentified at the time Dr. Box made the photomicrograms from which this and the two following illustrations were made. This one shows the white masses in a comparatively early stage of development.

The Histology and Pathology of the Dental Pulp

This paper is an elaboration of the work of other workers in the same field. It will show that the pulp contains, in addition to the artery and vein, sympathetic and vaso-motor fibres and lymphatics; in short, that it contains about all the circulatory apparatus found elsewhere in the body.

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* From Stillman & McCall's "A Textbook of Clinical Periodontia." By courtesy of The Macmillan Company.

Fig. 2*

This illustration shows in a striking manner the bays cut into the alveolar tissue by these mysterious masses of cells. One large bay appears at the lower third of the alveolar tissue which is the dark central area. A smaller bay is seen near the crest.

Studies in Periodontal Pathology

The theme of this paper will be somewhat modified by the new discovery.

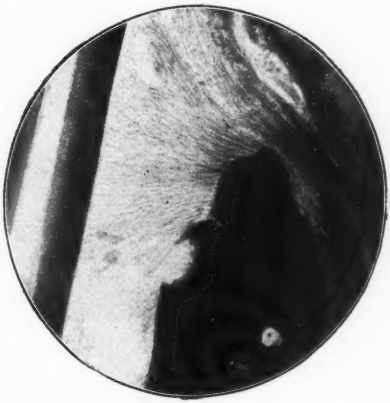


Fig. 3*

This illustration is a higher magnification of the preceding cut and shows the small bay in the upper third of the alveolar tissue in greater detail.

* From Stillman & McCall's "A Textbook of Clinical Periodontia." By courtesy of The Macmillan Company.

The discovery by Dr. Box which gave rise to the newspaper articles consists in the identification of what he believes to be a new disease process. Dr. Box has named this process *Rarifying Pericementitis Fibrosa.* He regards this condition as an expression of irritation in the tissues precedent to inflammation. It is probably the result of traumatic occlusion. It is manifested in those fibres of the pericementum which lie between the tooth and the alveolar wall. Dr. Box has been able to determine the character of certain areas of solution of continuity in these fibres and the methods by which the disease condition is extended.

The white spots in the fibres in Figures 1, 2, and 3 represent the location of masses, amorphous in the center but with certain forms of cells present near the margin.

When the masses first form, they are apparently small. When they become large enough to come into contact with the bone of the alveolar wall, they excavate bays in the bone, as can be seen in Figure 2. In some cases these bays cut off the crest of the alveolar wall. In addition to this process of direct excavation these masses cause the formation of channels in the bone which surround a considerable area of bone. The bone surrounded by one or more such channels goes into solution. Extensive destruction of the alveolar process may result from these processes without clinical symptoms of inflammation.

The bays are not observable in a radiogram, and they may be extensive without radiographic evidence. If the traumatic occlusion which undoubtedly gives rise to this condition be sufficiently long-continued, there may be extensive absorption of the alveolar process, with no further radiographic evidence than a thickening of the pericementum. The condition would be diagnosed by a congestion of the gingiva and loosening of the tooth.

This condition of *Rarifying Pericementitis Fibrosa* is probably the first evidence of the reduction of tissue tone by traumatic occlusion in preparation for the onset of infection.

It is quite possible that future studies may make it possible to measure the reduction of tissue tone by the comparative size of the amorphous masses. When the tissue tone is sufficiently reduced, bacteria get a foothold and nature's efforts at repair are seen in the resulting inflammation.

Amalgam Restorations—A Progressive Group Clinic*

First Clinic

Alloys, Their Composition and Characteristics

By Floyd Straith, D.D.S., New York, N. Y.

(Editor's Note: The Bellevue Hospital Dental Clinic Club, composed of dental internes in Bellevue Hospital, New York, gave the progressive clinic hereafter described before a large and interested audience.

This clinic was important because the subject is one with which every dentist serving at moderate fees should be familiar, since not all patients can afford gold inlays and all cases do not require inlays.

It was important also because a group of recent graduates had the preparation, the courage and the ability to put on a sensible, practicable clinic in a sensible, practicable way. This attitude and this service by our young men are helpful to graduates of a day when knowledge was less exact and are full of promise for the continued development of the clinicians.)

Amalgam restorations, like other dental operations, can be properly studied only in the light of their purpose, which is to preserve the health, efficiency, comfort and appearance of the hard and soft tissues of the mouth. This progressive clinic has been arranged to place before you a technic which we find satisfactory in cases where amalgam restorations are indicated, because of the conditions of the case or the financial condition of the patient, and to give an outline of the technical studies by many workers upon which that technic is founded. The Club makes no claims for originality. Much of the underlying work is so familiar to you that it will be unnecessary to mention by name each of the authors.

The student of the preservation of the health and function of the oral tissues will be immediately impressed by the fact that studies of all dental operations must be extended over a period of years after the operation is completed if a sound decision is to be reached. This is quite as true of amalgam restorations as of any other dental operation. In from five to fifteen years after insertion many amalgam fillings are seen to have undergone extensive and sometimes harmful changes. Some seem to have grown right up out of the cavity. These changes may occur for any of a number of reasons. It is my part of this clinic to call your attention to the characteristics of alloys which may cause

* Given at the Academy of Medicine, New York, December 3, 1923, by the Bellevue Hospital Dental Clinic Club, under the direction of John T. Hanks, D.D.S.

such changes, even if a fine technic be followed. A knowledge of these characteristics will enable the dentist to select alloys least likely to undergo such changes and prepare the way for the construction and manipulations which are to be given in another part of the clinic. In outlining these characteristics it will be necessary to employ the findings and diagrams of a number of prominent investigators in this field. Those shown in this part of the clinic have been taken from the reports of Arthur W. Gray.

The two most important factors of alloys and their amalgams are volume change and strength, and it will be upon these that I shall dwell throughout. The first of the characteristics that we are to study comes under the head of *Volume Change.* It concerns every dentist. Amalgam is affected by expansion and contraction the same as other metals. However, it differs from other metals in this respect: that in addition to the normal expansion as a metal, due to its thermal conductivity, it also possesses certain characteristics in its expansion and contraction which are accountable only to the process of amalgamation. An amalgam is said by authorities to be a mechanical mixture, a chemical combination or a solution, or a combination of all three of these in varying degrees of each. Thus we can easily understand from a scientific viewpoint why an amalgam during its amalgamation can exhibit various phenomena of expansion and contraction.

From the beginning of amalgamation there is first a contraction. This is quickly followed by expansion. Slow contraction then sets in, which reduces the bulk to a minimum. This is followed by a final slow and long-continued expansion. The first two of these changes may take place in a few seconds, minutes or hours after the mercury has been brought into contact with the alloy. If the amalgam is properly manipulated, the character of the changes that take place in the first part of amalgamation will directly control the changes in the last stages. In order that a visual idea may be had of the general trend of expansion and contraction, one may compare a plotting of the four principal changes, as the outline of two teeth of a saw, simply to illustrate the contraction as the downward lines and the expansion as the upward. Examination of the accompanying graphs will demonstrate this in more detail.

As it is impractical for dentists to make their own alloys, and as certain manufacturers have taken this upon themselves, at least three forms of responsibility devolve upon the manufacturers: (1) to furnish us with alloys of a desirable character; (2) to inform us as to the true form and nature of the alloys they furnish; (3) to teach us just what they learn as to the advantageous methods of manipulation of their alloys.

The principal metals employed in the manufacture of alloys are

silver and tin. Silver is the base of the alloy. Its functions in the alloy are to increase the edge-strength, to lessen the flow of the amalgam subsequent to insertion, and to offer a metal little acted upon by the saliva. It increases the volume as it goes into amalgamation.

Tin retards the speed of setting, increases the volume of the amalgam and decreases the edge-strength. It increases the flow or plasticity.

The third metal used in a standard alloy is copper, which hastens the setting, increases the edge-strength, lessens the flow and does not affect the volume appreciably.

Zinc is used in less degree than silver and tin in some alloys, but is not present in all. It increases the volume, hastens the setting, increases the edge-strength, lessens the flow, improves the color and, most important of all, acts as a flux to make the alloy work easily, that is, to give it smoothness.

For purposes of study, amalgams may be divided into two groups, one known as a high-silver and the other as a low-silver group. In the high-silver group the proportions range about as follows: silver, 65% to 68%; tin, 26% to 28%; copper, 3% to 5%; zinc, about 1%. The low-silver alloys are usually made of silver and tin, approximately 50% of each.

Zincless alloys may save teeth, but they do not give the uniform results, in the hands of the average operator, which are obtained by the use of alloys containing some zinc.

The high-silver alloys are more stable, set more quickly and are freer from contraction than the low-silver alloys. The low-silver alloys are easy to amalgamate, set more slowly, are lighter in color and flow more easily under masticating stress, after insertion. The comparative strength of high-silver alloys may be expressed by the following figures: high-silver alloy, 37; low-silver alloy, 25. That is, high-silver alloys are 75% stronger than low-silver.

The strength of amalgam varies inversely with the quantity of mercury left in the resultant filling, which can easily be seen by comparison of the two curves in the following graphs from Arthur W. Gray. That is to say that, as illustrated in these graphs, the percentage of mercury is a contributing factor in the low-silver alloy as compared to the high-silver when both are subjected to the same crushing stress, inasmuch as the low-silver retains more mercury. With regard to the high-silver, its strength is also influenced, but not to such a great extent.

Primarily the graphs are to show the comparative strength of high- and low-silver alloys. In explanation to those not familiar with such graphs it will suffice to say that each of the dots on this and the succeeding graphs represents tests, the results of which were tabulated on the cross-section paper in their correct relations and the connecting

lines drawn to show the general trend of the experiments and the deductions from them. (Fig. 1.)

At the end of forty days the high-silver filling shows about 1500 more kilograms of crushing strength than the low-silver alloy. Some experiments we have made show similar results.

The character of the amalgam will be affected by the size of the particles of the alloy, and whether they are shavings or filings. Filings, which are usually smaller in size, exhibit a quicker action with the mercury. The size of the particles should be determined by the manufacturer, who should grind the alloys to the sizes suitable to the

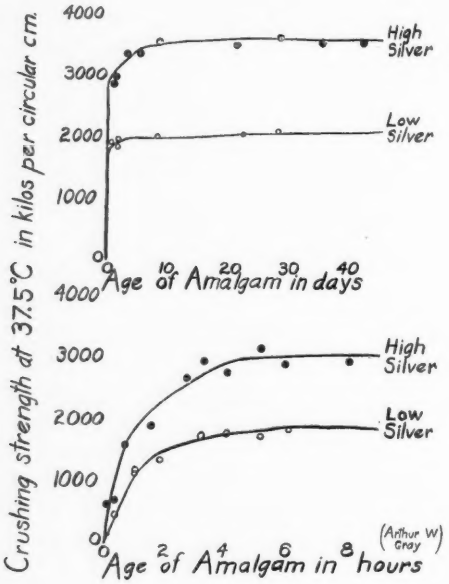


Fig. 1

formula. The particles should not be all of one size; if large and small particles are mixed, the smaller ones will go into action with the mercury quickly, while the slower amalgaming of the larger particles will tend to counteract the action of the smaller ones. This somewhat controls the volume change. Tests for linear expansion show that the larger particles expand very slowly and the small particles expand very rapidly and contract very slowly, the one counteracting the other during amalgamation, thus tending to balance the tendencies for expansion and contraction.

The three curves in the following graph show the expansion and contraction recorded from amalgams made from three different-sized particles. Curve 1 was of an alloy with particles too large to pass through a mesh of 48 to the inch. Curve 2 was of an alloy of particles sufficiently small to pass through a mesh of 200 to the inch. Curve 3 was of an alloy of very fine particles. (Fig. 2.)

Filings, when first cut, gave Flagg and Black different results from those which they expected. Subsequent experiments determined that the alloy particles were tempered in the cutting process and that they must be annealed properly to give uniform results. Alloys may be

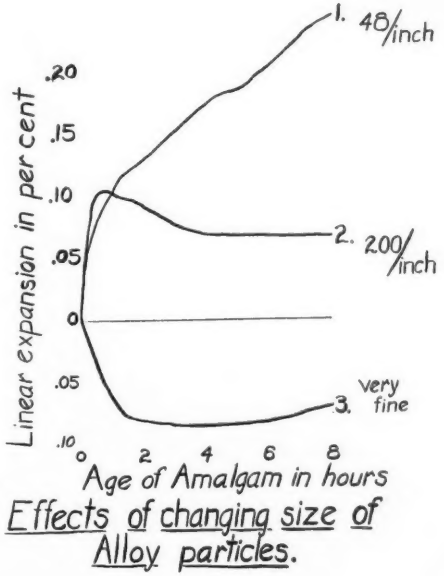


Fig. 2

annealed by exposing them for a short time at a high temperature or for a long time at a normal or room temperature. Alloy should be kept in the dark, away from heat and chemicals, and should not be allowed to stand for many months if the best results are desired. Annealing reduces the amount of expansion in amalgams which expand and increases the contraction in those amalgams which tend to contract. It also reduces the mercury content because of the fact that the amalgam has a greater time in which to set. Before annealing, amalgam will retain 70% of mercury, and afterwards 50%.

Among those factors that affect the strength and volume change of the resulting filling, which the operator himself may largely control by manipulation and technic, are the percentage of mercury to make a plastic mass, the time and method of mixing, the method and pressure used in condensation, and the temperature of the filling during the first four to eight hours after insertion.

The percentage of mercury which is allowed to remain in the amalgam affects the expansion and flow under stress after the filling is inserted. The crushing strength of an amalgam reaches its maximum when there is about one and one-half times as much mercury as there

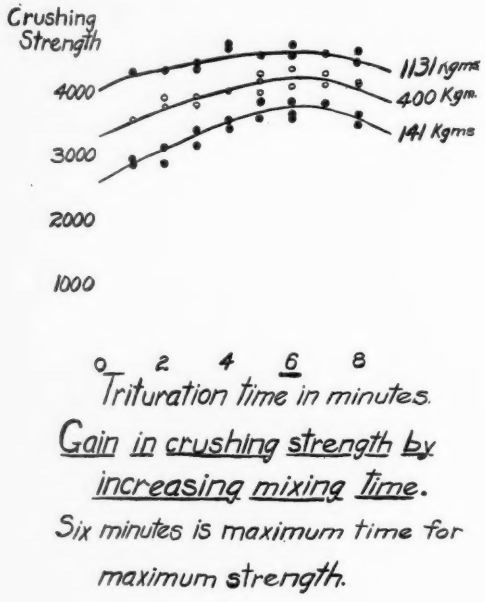


Fig. 3

is alloy at the beginning of amalgamation. Any increase above this amount will not affect the resultant filling, if properly mixed and condensed, as increasing the pressure used in packing greatly increases the crushing strength of the alloy by removing voids and all possible excess mercury.

The time that the amalgam is mixed is of great importance. Too little or too long mixing lessens the strength. The greatest strength is developed in from four to six minutes of constant mixing. (Fig. 3.)

By examination of this graph it will be seen that the three series of

experiments based on the trituration or mixing time, although the packing pressure was greatly increased, show that the strength as denoted by each curve is highest when the trituration time was between five and six minutes, and declined after six minutes. Five and three-quarter minutes is as long as a carefully annealed alloy may be safely mixed by the average operator for a simple filling.

The packing will affect the expansion, the contraction, the flow and the strength, the strength being proportional to the packing pressure, as may be shown by graphs of experiments similar to the preceding. Summing up a series of graphs on this phase, we should find that, as

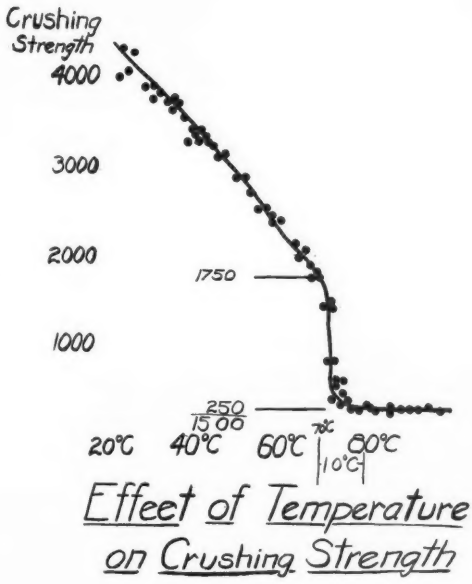


Fig. 4

the packing pressure was increased from 141 kilograms to 1131, the crushing strength was increased from 800 kilograms to 4600.

The fourth element under control of the operating dentist is the temperature. The results of the previous work are affected by the temperature at which the amalgam is kept after it is inserted in the mouth. To obtain the best results, the patient should not eat hot or hard foods for at least four (and preferably eight) hours after the filling has been inserted. If the amalgam is subjected to a temperature of more than 70° C. during these four hours, there will be a rapid drop

in the crushing strength; and if the patient should masticate upon it with any force the filling would be sure to suffer. (Fig. 4.)

This graph shows the crushing strength of high-silver alloys at 20° C. to be 4000 kilograms and at 60° C. to be 2000 kilograms. Between 70° C. and 80° C. the crushing strength drops almost vertically from about 1750 kilograms to 250. Therefore, any foods of the temperature of hot coffee would subject the filling to too great a temperature during the period of setting of from four to eight hours when the strength is already unavoidably low. This point is of extreme importance to those operators who bevel the surface angles of amalgam preparations, as the small shelf of amalgam over the bevel will fracture under slight pressure, particularly if the strength is lowered during its initial volume changes. This will leave very susceptible areas for decay that would normally escape the observation of the operator.

In summing up, I should advise that you use one good alloy and stick to it, and then improve your technic by making use of the knowledge which we hope you may derive from this clinic.

Bellevue Hospital.

(The second part of this clinic will appear in the May issue.)

April Rain

It is not raining rain to me,
  It's raining daffodils;
In every dimpled drop I see
  Wild flowers on the hills.

The clouds of gray engulf the sky
  And overwhelm the town;
It is not raining rain to me,
  It's raining roses down.

It is not raining rain to me,
  But fields of clover bloom,
Where any buccaneering bee
  Can find a bed and room.

A health unto the happy,
  A fig for him who frets,
It is not raining rain to me,
  It's raining violets.

Practical Esthetics

By Francis Scott Weir, D.M.D., New York, N. Y.

The application of esthetics in full denture construction is of great value to the general practitioner as well as to the specialist. If you will recall the number of times you have answered the question, "Doctor, are these teeth going to look natural?" you will realize something of the importance patients place upon the appearance of artificial teeth.

Fig. 1

However, it is a subject little understood and usually avoided because it is considered mysterious and difficult.

It is not necessary to consider definitions here, for we are concerned with a practical and simple application of esthetics. This is neither mysterious nor vague but is tangible and easily applied.

The practical application of esthetics is made from four considerations: first, color; second, face form; third, arch form arrangement;

and fourth, profile type. These four factors constitute a complete comprehension of esthetics in full dentures.

The first point requires the selection of a hue or color of porcelain that is in harmony with the complexion of the individual. We recognize three principal types of complexion, the blond, the medium and the brunet. The greatest number of people are of medium complexion. Stating this rule briefly, we might say, "Select a tooth that shows the least amount of contrast when placed in the mouth." To apply this,

Fig. 2

proceed in the following manner. Determine the general complexion type, which is easily recognized. If a person has light, flaxen or golden hair, blue eyes, clear transparent skin, that person belongs to the blond classification (Fig. 1). The brunet has dark brown or black eyes, dark hair and an olive or swarthy skin (Fig. 2). The medium type is the variation between the extremes of blond and brunet (Fig. 3). Having determined the complexion type, select about four shades from

the guide according to the classification. In the case of a blond there would be a range of from three to eight shades on the shade guide. In the medium type there would be from six to eleven shades, and for brunet from ten to twenty-one shades. These are normal classifications. The reproduction due to badly stained, decayed or broken teeth would of course call for a modification of this selection.

When the complexion type has been determined and shades selected within the range required, place the patient in a good natural light,

Fig. 3

put the teeth under the lip until they can not be seen, then bring them to view. Look closely and quickly determine the one with the greatest contrast. This tooth is put aside and the operation repeated. The last tooth will usually be the best selection. If it is wrong, try others in the same way. Teeth that are naturally shaded should be used as they increase the harmony by maintaining the correct perspective, resulting in correct proportions and relationship in the mouth.

Staining, as a rule, produces better harmony only when used by those who thoroughly understand color harmonies.

Color deals with the blending of complexion and tooth as well as

with employing factors of optical illusions or distortions due to correct shading for perspective.

The face form should harmonize with the tooth form. Three face forms are recognized today: the square, the tapering and the ovoid. These forms are quite familiar to all and in their true types are easily recognized. The square form is characterized by having the sides of the face through the condyle and angle of the mandible parallel to each other. The tapering form is characterized by having these lines converge downward; and the ovoid by having the face present a rounding form or a series of segments of circles.

Most face forms are modified by characteristics from one of the other forms and are more difficult to classify than the true typal forms. The predominating form should be the guide but it will call for a highly modified tooth. Proper selection will be safest in these cases by remembering this; and if in doubt, select a tooth in the modified forms as a discrepancy will not be so marked in its appearance.

Many means have been suggested for determining face form, but experience has taught that a simple and fairly accurate method is to place two straightedges on the face in the condyle regions, and it is then quite easy to see whether they are parallel or whether they diverge or converge. A close study of faces will soon teach one to recognize these types with great accuracy.

The tooth you buy is in proper proportion, so it is necessary to determine the size only. For example, a face is medium, square, or long tapering in various sizes. Once the modification is determined, the size must be considered as the second factor.

Size is dependent upon the size of the face and the mouth. It would be wrong to place a very large tooth in a large head with a small mouth. It would also be wrong to put a small tooth in a large mouth and a small face or vice versa. In these cases it is necessary to compromise and consider the size of the mouth together with the size of the face. In normal cases the angles of the mouth at rest are a satisfactory guide for the width of the six anteriors. The length of the tooth normally should be from the high lip line to about a sixteenth of an inch below the lip in rest position. The width of the posteriors is determined by the distance distal to the cuspids.

Many times ridges in the incisor regions are very prominent and upper lips short. The problem is to prevent showing vulcanite and undue fulness of the lip. By proper impression technic it is possible to secure a seal in soft tissue on the crest of the ridge, thus permitting the cutting away of the labial flange and setting the gingival margin of the tooth on the ridge. This usually lessens the stability of the base, but where appearance is a dominant issue is permissible.

Fig. 4

Fig. 5

Fig. 6

The use of teeth with long ridgelaps, carefully ground, will take care of this condition in most cases. A large number of these cases should be prepared surgically if best results are to be obtained, but conservative surgery should always be used. A tooth with outline form in harmony with face form, of proper proportion of length to width, and of a size to harmonize with the size of the face and the mouth, completes the second requirement in esthetics.

The arch form arrangement is very important in obtaining pleasing results and may be divided into three groups as shown in Figs. 4, 5 and 6. All varieties of arch forms will be found in a given type of face; a square arch in an ovoid face, a tapering arch in a square face, a tapering upper and an ovoid lower in combination in a long tapering face (Fig. 7), and many other combinations. The mechanics of the case teach us to keep the teeth on the ridge, and the esthetics to place them for best appearance. It is logical to presume that a square face with a square tooth should have a square arch arrangement to secure the best appearance (Fig. 8). This is not always feasible as a large ovoid lower and a small tapering upper would place strong leverage on the upper and make its use very difficult. This requires treatment as in the prognathous type described later. However, it is well to remember that best harmony is maintained when the teeth are placed in the same arch arrangement as the face form and tooth form. The arch itself is not an accurate guide but the arrangement of the teeth should conform to the face form. This step in the arrangement of teeth is an interesting one as it has to do with all of the irregularities and asymmetrical conditions.

A square arch is usually quite regular in its form, as a careful study of natural arch forms will show (Fig. 9). The ovoid arches frequently have overlapped or underlapped laterals while the tapering have many forms of gross irregularity, such as rotated centrals, underlapped and overlapped centrals and laterals. This requires some study and must be fitted to each case individually, by test and trial.

Another point to consider in arch arrangement is the asymmetry of faces. One side of the face may be well developed and the other side not. It may be hereditary or acquired from habit. The arrangement of the teeth by building out and placing them in an irregular line gives an appearance of balance to the face. Some call it an optical illusion, others balanced harmony. A study of the effects of various arrangements will indicate the one most harmonious.

The arrangement of the teeth is also important in refraction and reflection of light. If they are placed a little irregularly a series of lights and shadows will result, giving them an individual and more natural appearance as well as helping to develop the perspective when seen in the mouth.

Fig. 7

Gross irregularities are displeasing, but many times a slight irregularity is individual. Since we are striving for individuality it is essential not to place all teeth in perfect alignment. In a case in which it is desired to reproduce the natural condition it is well to reproduce the general irregularity, but it is also well to modify or soften it.

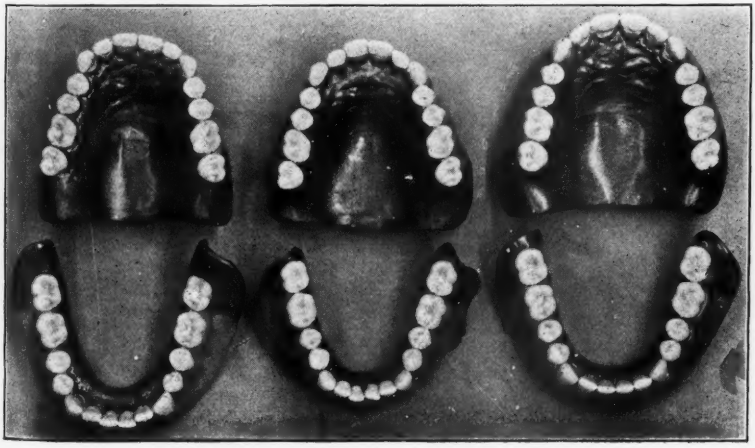


Fig. 8

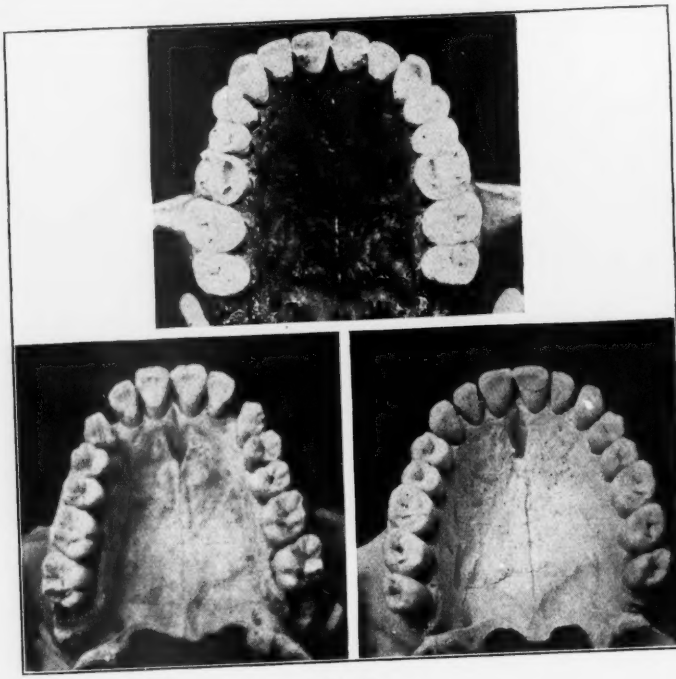


Fig. 9

Fig. 10

Fig. 11

Fig. 12

Arch form arrangement conforms to face form and tooth form, with the irregularities as found in natural conditions but modified to produce a pleasing appearance, at the same time preserving the individuality.

The last step in our consideration of esthetics is profile type. There are three profile types: straight, convex and concave. These bear an important relation to the position of the anterior teeth. The straight profile in nature has a normal overjet of the upper anterior teeth as shown in Fig. 10. The artificial teeth should be arranged for this type in like manner. The convex type shows the receding chin with a marked overjet of the upper anteriors over the lowers (Fig. 11). The artificial teeth should also have this overjet. The concave is the prognathous type as a rule and in the natural case shows either an edge-to-edge relation or the lowers biting outside the uppers (Fig. 12). It is important to place the artificial teeth in like manner.

These profile types are not only natural but harmonious to these individuals. Many cases are unsatisfactory because this point has not been considered. To disregard it is to destroy the relations of the teeth and lips, producing faulty speech; to disregard it is to produce such leverage on the anteriors as to make the dentures unserviceable. These are mechanical considerations of vital importance, and harmony or esthetics calls for preserving the profile as it is, if natural, by placing the teeth in a normal relation, edge-to-edge relation, lowers outside of uppers, or an overjet of uppers over lowers, according to the profile type. A safe rule is to keep the anterior teeth, upper and lower, over the crest of the ridge. This will result in a higher percentage of successful cases.

A careful study of these four points, color, face form, arch form arrangement and profile type, will produce dentures of natural and pleasing appearance.

235 West 103rd Street.

Rational Treatment of Pulpless Teeth

By Elias Lieban, D.D.S., New York, N. Y.

Clinical Director and Lecturer on Root Canal Therapy, New York College of Dentistry; formerly Dental Surgeon of Lebanon Hospital, New York City; Metropolitan Hospital, New York City.

(*Fourth Article*)

Asepsis

Success in root canal treatment depends primarily upon cleanliness. The mode of obtaining aseptic conditions by means of antiseptic methods must be given careful consideration; so it has been deemed expedient to give a chapter on this subject to show the condition under which root canal therapy should be done. Although a difference of opinion exists regarding technic, at least we all agree upon the value of disinfection and sterilization as a means of prevention of surgical affections. We must aim toward simplicity, avoiding complicated procedures, for at best any method employed will give only relatively aseptic results.

Cleansing and sterilizing the hands are important factors. Soft green soap should be used with a sterile hand-brush and warm water. After the soap has been thoroughly removed, and the nails carefully cleansed, the hands should be rinsed in either a 1/2000 solution of bichloride of mercury, a 2% lysol solution, or a solution containing 3% phenol, 22% glycerin and 75% water. Some operators find the first two solutions irritating with the tendency of hardening the skin. In the third solution, the glycerin neutralizes the caustic properties of the acid but does not diminish its power as a germicidal agent. The solution is non-irritating and will keep the skin in good condition. Hands should be dried with a sterile towel. The delicacy of this work does not allow the use of rubber gloves, although in suspicious cases it is advisable to sacrifice convenience for protection. A sterile operating gown with short sleeves should be worn, with the arms bare below the elbows, so that sleeves or cuffs cannot interfere with the operation.

All instruments are mechanically cleansed with a small brush and then sterilized by boiling for twenty minutes. Towels, napkins, absorbent points, cotton pledgets, cotton pellets, bibulous paper, cotton rolls, and cotton-wrapped broaches are sterilized in a dressing sterilizer by means of steam under 15 pounds pressure for twenty minutes and then subjected to negative pressure for 10 minutes. Convenient packages of dressings are made as follows, and are always ready for use: a 6 x 6 aseptic napkin is used as the outer wrapping; in the center of the napkin are placed two small napkins which are cut into quarters from the 6 x 6 size; a dozen or two absorbent points, the same amount of cotton pledgets, cotton pellets and 1 x 1 squares of bibulous paper are

placed on the small napkins; the outer napkin is then folded together and pinned. Any number of these packages can be placed in a tray or drum and sterilized at the same time. After removal from the sterilizer they can be kept in an air-tight jar or in the drum until ready for use.

The author advocates the use of a partitioned glass receptacle with cover as illustrated in the previous article. After the packages are opened the dressings are removed and immediately placed in this receptacle, and in this way the least amount of contamination by exposure will result. In the sterilization of dressings by steam without pressure it is advisable to subject them to at least two different sterilizations of thirty minutes each. Pathfinders, barbed broaches, apexographers, picks, files and pluggers, after being removed from the sterilizer, are immediately placed in the glass receptacle as previously illustrated. This receptacle contains a solution of three parts 95% alcohol to one part eucalyptol. When an instrument has been introduced into a canal it should not be replaced in the receptacle until scrubbed and reboiled. Short instruments such as burs, reamers, files and diagnostic wires are placed after boiling in the broach sterilizer and, like the other instruments, are also kept in a solution of alcohol and eucalyptol, the same as mentioned above, and should not be replaced in the receptacle after being once used.

Root canal instruments can also be sterilized in the dressing sterilizer under steam pressure, but each instrument should be wrapped individually with bibulous paper, and then a number of these instruments wrapped loosely in a towel. Wrapping in bibulous paper will prevent the mottle on instruments. All dressings, burs, gutta-percha cones and diagnostic wires should always be handled with sterile pliers. Gutta-percha cones are kept in an airtight glass receptacle containing a solution of three parts 95% alcohol to one part eucalyptol. Alcohol alone makes the points too brittle.

Before attempting any root canal therapy it is advisable to resort to prophylactic treatment to reduce to a minimum the possibilities of infection in the field of operation. The mouth should be sprayed carefully or rinsed forcefully with an antiseptic solution. The area of the operation is then painted with tincture of iodine. The rubber dam, which has previously been washed with tincture of green soap and rinsed in a 1/2000 solution of bichloride of mercury, is now applied and the teeth that are exposed, together with the adjacent surface of rubber dam, are again painted with the iodine, followed with alcohol. The rubber dam should be applied before each treatment and previous

to removing dressings, unless its correct application is absolutely impossible.

Three important factors must be considered in the prevention of infection: vital resistance of living tissue, exclusion of bacteria, and destruction of bacteria by artificial means.

17 West 42nd Street.

(To be continued)

Westchester Dental Society

The next regular meeting of the Westchester Dental Society will be held at the Yonkers Chamber of Commerce, 35 South Broadway, Yonkers, N. Y., on Tuesday, April 15, 1924, at 7:30 P. M.

For this meeting, the Westchester Dental Society has been most fortunate in securing as the lecturer of the evening a man internationally famous, second to none in his particular specialty.

The name of this man is *Dr. Herman E. S. Chayes.* Dr. Chayes has inaugurated a new era in dentistry. The famous removable bridge, which is known to the dental profession as the "Chayes' Removable Bridge," was presented to dentistry by the brilliant mind and skillful hands of this man of genius.

Dr. Chayes will take as his subject "Inlay Technic," and will bring with him his entire staff of clinicians to demonstrate the work he is teaching. The lecture will be illustrated by a number of lantern slides.

At the March meeting of the Westchester Dental Society, Dr. Paul R. Stillman gave a very interesting lecture on "Physical Culture for the Gingiva," illustrating the talk by means of lantern slides.

Many eminent practitioners discussed Dr. Stillman's paper, Dr. I. Hirschfeld opening the discussion.

At 5:00 P. M. on the afternoon preceding the meeting, Dr. Stillman gave a clinic at the office of Dr. I. Linder, 10 N. Broadway, Yonkers, N. Y., on the above-mentioned subject, demonstrating his work on patients. The clinic was most interesting and very instructive.

A. S. Rochlin, D.D.S., *President,*
205 Flagg Bldg., Yonkers, N. Y.
H. Rosenberg, *Secretary,*
15 Palisade Ave., Yonkers, N. Y.

The Place of Maldevelopment in the Etiology of Pyorrhea*

By J. N. Reddick, D.D.S., Jacksonville, Fla.

When we read and study dental anatomy, histology, pathology and oral surgery with such men as Noyes, Grieves, Miller, Payne, Duke, Lambert, Blair, Logan, Black, Brown, Rosenaw, Gilmer, Hartzell, Cryer, Dixon and McCall, with hundreds of other noted men of today and yesterday, we wonder where the etiology of pyorrhea will stop. These men have searched diligently and have accomplished something of credit to their profession. Therefore, it behooves every man in the dental profession to enter diligently into some research work to see what he can find by observing, recording and counting.

Pyorrhea is a very peculiar malady, one which has had considerable attention in the past several years, from both the profession and the afflicted. It is one that must be treated, cured and prevented. Therefore, it is up to the dentist to accomplish this great task.

Ask whom you please today the etiology of pyorrhea and you will receive various answers. Theories which work out systematically have been so all-embracing and so weakly supported for the lack of knowledge that they have died before they had a chance to secure the place which they deserved. Distorted contacts, neglect, decay, infection of specific kind, uric acid, lues, dietetics, bad or sorry dentistry such as fillings, plates, clasps, etc., with occlusive trauma, and dozens of other causes have been advanced and discarded because we have confused these causes with results, and the results with causes.

If I ask the cause or etiology of dental caries you are ready to say, without hesitancy, "Lactic acid," and name each stage of disintegration. But who can do that with the etiology of pyorrhea?

Let us turn our attention to the study of a mouth with pyorrhea. What is the first situation observed? Pyorrhea, of course. The next is an unsanitary condition. The next is the extent of the disease. The next is the restoration. Let us observe a little closer and study the reasons for pyorrhea. Let us be specialists in pyorrhea for a minute and look for the cause of the malady in this particular case. This is what you will find in 90 per cent of a hundred cases—a maldeveloped occlusion. Then naturally we hunt for the cause of malocclusion. After observing malocclusion, we find it is necessary to classify it. Let us take Dr. Angle's classification as one type. Then we find another type, that caused by the loss of a tooth. The result of this type has created quite a sensation as "traumatic occlusion," a result of maldevelopment

* Delivered before the Florida State Dental Society, Nov. 8, 1923.

or malocclusion. Then we find another type of malocclusion, one said to be caused by Treponema pallidum or any high temperature which results in maldeveloped crowns, roots or tissues that support the arch. Hence, I find three different types of malocclusion; collectively, I say maldevelopment. Also, I say maldevelopment because this situation does not materialize in a few minutes, or hours, but after months or years by a slow change in tissues from pressure. Thus we observe that maldevelopment has a place in the etiology of pyorrhea, and I have classified it into types according to its etiology:

Oral Maldevelopment

Type I

Any maldeveloped condition of the dental organs or tissues supporting them, caused by the Treponema pallidum or any high temperature before eruption and full development of a tooth, or teeth, and dental arch.

Type II

Angle's various classifications and subdivisions.

Type III

Any maldeveloped condition or position of the dental organs, or tissues supporting them, after normal development and occlusion, by extraction, infection, trauma, decay, abrasions or pressure.

Type I is a type of maldeveloped teeth, crowns and roots, as well as the tissues supporting them. Its etiology is the Treponema pallidum, or some high temperature, as a fever which causes a maldeveloped arch or tooth. Sometimes we see other types associated with it, but seldom; and when we do, it is in one of the classifications, according to its normality. There is seldom anything for the orthodontist to do in the beginning of development of this type because of the general situation. In these cases we find pyorrhea as in other types. This type is not caused from pressure, as are Types II and III, but is more of an atrophied condition of the odontoblastic cell retarding a normal development of the tooth, or cells developing tissues supporting them, or the lack of pressure. I have not gone into this type thoroughly, as these cases are not so numerous as the other types.

Type II is a type of maldevelopment classified by Dr. Angle as "malocclusion." Its etiology is pressure, either from habits or eruptions peculiar to the individual in childhood or from the eruption of the third molars at a later period. Nevertheless, it is pressure, as it takes pressure to move a tooth in the mouth from normal to abnormal. This type is one with which we all, especially the orthodontist, are very familiar. I shall not molest or distort the work of the orthodontist

but accept it as a type of maldevelopment according to its etiology, and pay him tribute for having done so much for dentistry years ago by observing, recording and counting. This type is a type in which pyorrhea is found extensively (but in no particular one of its various classifications).

Type III is a type of maldevelopment of very much concern and very important. It is a type which has always existed and will exist as long as people lose teeth. It is the result of pressure, neglect, trauma, infection, sorry dentistry, distorted contacts, occlusive trauma, decay, alveolar abscess, mercury, osteomyelitis, periostitis, tuberculosis, Vincent's angina, tumors, lues, lead poison, phosphorus poison, abrasions of the gingiva by acids and tartars, and numerous others. It is a type of maldevelopment found in 80 per cent of mouths older than 40 years. This type is the one which raises the percentage of pyorrhea so high among the populace and has given the general practitioner considerable thought. It is a type which has destroyed many a beautiful set of teeth in normal occlusion and one which has caused various maladies, puzzling the medical profession to interpret the etiology. It is a type causing many various tumors of the mouth and stomach. It is a type which has caused even death from acute indigestion. It is a type the orthodontist cannot handle, and one he prefers to avoid on account of the patient's age. It is one that has received little attention from periodontists for the reason that it has never been classified. Still, he knows it has something to do with pyorrhea. The exodontist has not been concerned. It is the cause of 80 per cent of the pyorrhea I treat, and this is the type which suggested to me a classification of such a condition. This type I have classified and subdivided, but I shall give you its classes and illustrate only one, showing its relation to pyorrhea.

(To be continued)

Reciprocity

By Julius L. Bischof, D.D.S., St. Louis, Mo.

In March, 1923, the writer drafted for the pages of THE DENTAL DIGEST an article dealing with the very vital problem of reciprocity. As a result, he received exactly three hundred and forty-three letters from members of the profession in all parts of the United States and, strange to say, every letter contained liberal endorsements of his views. Very many of the letters contained suggestions that more be written in this strain with the same "punch." While the writer is genuinely interested in this very important subject now confronting the dental profession, he cannot help wondering why these men who want further publication on this subject do not do something themselves in the way of stirring up enthusiasm. Are the thousands of dentists in this country who want National Reciprocity—and want it badly—going to submit to the present state of affairs? If we passively sit by and idly leave it to our dental politicians to put this project over, I fear, dear readers, that we shall have a long and patient wait. I am informed that at the last meeting of the American Dental Association the subject of reciprocity was very lightly touched upon but no progress was made in its favor.

After having talked with thousands of dentists in all parts of the United States and having positively learned their views, I cannot help wondering what is the matter with the profession. It is true that they complain about the non-reciprocal relations as they exist today—yes, they complain bitterly—yet every year finds hundreds of dentists changing states and submitting to the old stereotyped examinations as handed out by the State Board Examiners, who in most instances are affiliated with some political organization. Yes, these examinations cost the candidates heaps of inconveniences, lots of money, weeks of lost time and a great deal of annoyance. I am thoroughly apprehensive that my remarks on this subject will not hit a responsive chord with the few who will look with disfavor upon its contents, yet I shall have no fear in speaking frankly, because I know positively that more than the great majority of the dental profession who read this agree with the expressed opinions. So why be insincere, why be hypocritical and why not "call a spade a spade" and deal with the situation as it confronts us? I reiterate what was said in the 1923 article, "The non-reciprocal relation as existing today is truly a farce and a relic of a somnambulistic age" and has long ere now outlived usefulness and popularity, not to say intent of rectification. I repeat, "It is un-American, intolerant, unjust, provincial and clannish to its very core and can be corrected if the members of the profession will awake to their strength and put a little steam into the machinery."

Gentlemen of the dental profession, we are living in the United States, a country united from its every frontier and border. Every state in our country, before being granted statehood, was compelled by our Constitution to measure up to the law and letter in what was expected by our national government. Has there ever been a time when any one state failed in its national governmental obligation? Certainly not! Could any state have been granted a franchise to the Union, if elements conflicting with the Constitution were part of that particular state's curriculum? Certainly not! If such had been the case at the time said state was knocking on the door for admission, what would our national government have said? Our government would have informed the bidding state that it was lax in certain constitutional measures and that upon their correction admission would be granted.

"Now, what has all this to do with reciprocity?" you ask. I am making an analogy simply for the sake of argument and for the sake of pacifying the conscientious objectors and the agnostics who bring up the protest that "we cannot have National Reciprocity because certain states are lax in their exactments and do not measure up to what would be expected in the event it became a reality or was looming up as a possibility upon the horizon." Allow me to ask the following questions: If we definitely establish National Reciprocity, in which program is embodied that all states enjoying recognition must measure up to the standard exacted by the National Board, is it not logical for reasonable understanding that the dental profession in every state will see to it that their respective states take immediate steps to be recognized? Is it reasonable to believe that any dental coterie in any state will for one moment allow themselves to be outlawed? Certainly not! If any state standard falls below par, it will be but a very short time before it will establish a standard necessary to bring about its recognition. And if the men who are the dental politicians in the respective states fail to negotiate properly their just place in the light of the National Board, it will be but a matter of a short time before a new election of officers takes place. Even the very few states which have "bluffed" us off all these years on having reciprocity will not allow themselves to be outlawed in the event of National Reciprocity, for it so happens that men from these very states at times desire to move to other parts.

Non-reciprocity is wrong and must be corrected and will be corrected as soon as an intrepid and concentrated effort is made by the dental profession to do so. Gentlemen of the dental profession, this is a very vital question and concerns each and every one. The principle upon which it is founded is wrong and the profession, while submitting to it for the present, wants it changed. Upon this score there

can be absolutely no doubt. There may be some question about the popularity of the Volstead Act, but there certainly is no doubt about the subject of reciprocity. If you, kind reader, are remotely in doubt about it, just ask the next five dentists you happen to meet, and I will vouchsafe the answers. I know, because, as stated before, I have talked with thousands, at meetings and in private, and the very few who oppose it have reasons that will not bear the acid test. I realize that a great many men who read these articles on the subject are, in the vernacular of the street, "sitting pretty" and are somewhat indifferent, but even they can never tell when some combination of circumstances will suggest a move to another state. Then it will be realized what a humbug and bugaboo another State Board examination is. I have seen it happen numerous times during a period of six years when the activities of work shifted me around the country for the Government. The reasons for dentists changing states are many. I have encountered situations where men of repute, rather late in life, desired to change locations for family reasons, or because perhaps some other place was more conducive to health, or because of investments made elsewhere, and for many other reasons, but they had an absolute abhorrence of a State Board examination. The preposterous phase of the situation is that anyone who has a diploma from a recognized college, or a State Board license in one state, can take an examination in another state, and pass the examination, providing he has the cash to tide him over the hump and can sit down and plug up enough for the Board! If he is otherwise undesirable, yet sufficiently capable at the time of examination, he can still take the examination. His constitutional rights entitle him to that. If he happens to be a "punk," he will revert to that stratum before long anyway.

There is no evil without a remedy, and I do not wish to be regarded as a chronic disturber or criticizer without proposing a remedy. It so happens at this writing that a few detailed facts for which I am waiting remain undetermined and I will therefore delay giving the remedy until the next issue. I will propose the remedy whether good, bad, or indifferent, and leave to the judgment of the dental profession its merits and application. I have a remedy which can be employed, but a concerted effort upon the part of those interested must be invoked. The longer the profession remains phlegmatic on this subject, the longer the tide will be stemmed and the longer the leaders will juggle the subject.

817 Carleton Building.

Tumors of Dental Origin*

By Dr. Robert H. Ivy, Philadelphia, Pa.

(This report is neither official nor complete. It represents the impression made by the paper upon one in the audience.)

An odontoma is defined as a tumor consisting of dental tissues. It is a calcified mass of dental tissues. Those which develop from the enamel are known as epithelial odontomes. These epithelial tumors include certain cysts, and may be multilocular or dentigerous. In all cases, despite the typical feeling and appearance, final diagnosis is made by means of the radiogram. It may be said that, as a general rule, these cysts do not invade the antrum.

There are two recognized means of handling cysts. By the first method, the entire cyst is shelled out and the flap sutured back in place. This is customary in small cases. The Partsch method is usually followed in the larger cysts. After the cyst has been removed, the flap is pushed in and held against the floor by means of gauze. The outer flap is thereby converted into an inner lining. The wound has a concave bottom gradually growing shallow as healing proceeds.

Composite odontomes are often found which consist of combinations of enamel dentine and cementum. Of the so-called soft tumors the epulis is the most common. This is a tumor on the gum and usually springs from the periosteum or peridental membrane. It is frequently seen firmly attached to the neck of the tooth and is traceable, as a rule, to a continued source of irritation, which may be tartar, broken-down teeth, or poor prosthetic restorations. The epulides are small, as a rule, although they may attain considerable size. No recurrence is to be expected if they are carefully removed, for these are benign growths. There seems to be a difference of opinion as to whether the teeth in the region of the growth should be removed, but it is held to be safer when this is done, for there are many who feel that there is potential danger in any growth which is not completely eradicated together with its source.

Distinctive of every epulis is the very small base whereby it is attached. Malignant neoplasms have wide seats of attachment and seem to mushroom into the surrounding tissues.

The giant cell sarcoma is a benign growth differing but slightly from the usual form of epulis. It attains a larger size and bleeds more freely.

Subsequent discussion served to bring home to the practising dentist the need for early recognition of the various growths in the mouth. Suspicion should be directed toward any small enlargements so that early diagnosis and effective treatment may be instituted.

* Delivered before the Second District Dental Society, New York, February 11, 1924.

Full Denture Technic—Campbell Methods*

By F. L. Adams, D.D.S., West Tampa, Fla.

First Step—Impression Technic

The manipulation of the modeling compound for the taking of the first part of the impression will be greatly facilitated if three pans and two syringes are provided. The first pan should be filled with water at 160° for softening the compound. The syringe used in connection with this pan should rest with its point in the pan and the handle projecting. The second pan should be filled with ice water and the syringe should be placed as in the first pan. The third pan should be empty. When the impression material is to be trimmed or scraped it should be held over the third pan. By means of the syringe of ice-water all the trimmings and scrapings are washed off into the empty pan. The entire working surface is kept cleaner in this way and none of the scrapings put back into the mouth.

Dr. Campbell suggests that the patient be seated in an ordinary chair without armrest or headrest, but for the lower impression I prefer a chair with a headrest. For the lower impression, Dr. Campbell seats himself at the patient's right, facing in the opposite direction. A table similar to an ordinary kitchen table is placed conveniently behind the patient.

For the upper impression, select a tray large enough to give a considerable bulk of material on the labial and buccal and long enough to support the impression material as far back as the movable soft tissues just posterior to the hard palate. Soften two sheets of impression tray compound at 160° until it is mouldable and place it in the tray, but do not attach it to the tray with heat. In this technic the tray is merely a conveyor to get the impression material into the mouth for the first time. If you wish, you may heap the compound up in the center and at the margins. Superheat the surface with the chipblower and the alcohol flame. I have a tendency to overheat the compound and cause it to bubble. If this is done it is better to cut that compound out or at least to add new compound because heating the compound to the point of bubbling injures the compound and the resulting impression. Temper the impression in hot water and pass it into the mouth and to place with an upward and backward pressure. Be sure that the handle of the tray is in the median line. Stand behind the patient to afford control of his head. Support the tray with one finger and with the other hand pull the cheeks down, on one side at a time, at the same time moulding the cheek inward. It is impossible to pull the cheek down too far. Do not pull the upper lip downward, but with a rolling

* A Table Clinic before the Florida State Dental Society, Jacksonville, November 8, 1923.

motion of the thumb and fingers mould the lip inward and downward.

Do not chill the impression in the mouth. Remove the tray from the mouth and immerse it in ice water. Then remove the impression from the tray. For trimming the impression to shape and size, provide a sharp knife, with a thin blade, and keep it sharp. Shave the impression material off. Do not try to cut off a chunk or you may break off more than you wish. Roughly trim the impression so that the walls all around are about 3/16 inch thick. Trim to approximately correct palatal length.

Drill a 3/16-inch hole through the impression material at the location of the anterior palatine foramen. This serves several purposes. It facilitates the removal of the impression; it allows excess plaster to escape during the making of the plaster wash. It is psychologically valuable, because if the impression sticks very tightly every time, the patient will expect the plate to stick equally tight, and if it does not, he will feel that it is not a success. It is valuable to the operator also, because if he has a high degree of "sticktion" he may not be as careful to perfect his margin technic and muscle trimming as he would otherwise be.

The imperfections in the impression are now to be corrected by the addition of compound and by muscle trimming. Wherever compound is to be added, be sure that the surface of the old compound is first thoroughly dried. With a tracing stick made of compound which is slightly less heating than the tray compound, add compound to the buccal margin in the region of the tuberosity and chill with ice water. Dry the surface, superheat, temper, re-insert the impression into the mouth, and manipulate the cheeks as before. Any excess will be rolled over onto the outside of the flange. Trim off the excess and repeat operation until correct adaptation and muscle trimming are obtained. Do the same thing on the other side. Work forward each time as far as your skill will permit.

It is necessary to determine the amount of space between the posterior portion of the tuberosity and the ramus of the jaw. To do this, add a little compound from a tracing stick on each side and opposite the posterior position of the tuberosity. Insert the impression in the mouth and instruct the patient to protrude the mandible. The impression of the ramus will show a slight indentation. Remove the impression and chill. This will serve as a guide in trimming to provide clearance. Determine the line to which you will extend the denture palatally. The usual border is just distal to the hard palate at a line where the muscles of the soft palate are observed not to lift when the patient says "Ah." Experience and study of the ridges will enable the operator to determine when to extend farther onto soft tissues and when to shorten onto hard palate. Trim impression to determined line.

Postdamming is done in two steps. Chill the impression, dry, then trace compound across palatal border from tuberosity to tuberosity and chill. Superheat, temper, and force impression into place in the mouth. Remove, chill, and remove excess. Or repeat, if necessary to add sufficient compound. The second step with wax is described later in order of technic.

The next step is to provide a certain amount of space for the plaster wash. Dr. Campbell believes that this technic avoids overpressure on any of the tissues which are under pressure by the impression. It is necessary to cut out of the intaglio of the impression a sufficient amount of material to allow for the desired amount of plaster. If there is a flabby ridge, more is cut out than when the membrane is dense. Cut away the impression material with an ordinary vulcanite scraper, except over the hard palate. Dr. Mason has suggested that where the membrane is hard or dense over the roof of the mouth, one or two places on each side be not scraped. They will then act as stops so that the plate will not go too high at subsequent steps.

Warm a roll of black carding wax about the size of a small instrument handle. Lay the roll across the periphery of the palatal border and seal in place with a hot spatula. Put the impression in the mouth. At first I did not meet with the success I anticipated in this step, because I got the wax too hot and too soft and did not get sufficient pressure on the compressible tissues. Now I warm the wax only slightly and get better results.

The process of equalizing the pressure at the periphery of the plate will be made easier if you take an old syringe and with a No. 4 bur enlarge the aperture to the size of a 12-gauge wire. Fill the syringe with ordinary black tooth-carding wax, warm it until the wax is soft, press on the plunger and a wire of wax will be forced out which may be placed as desired. Attach a wax wire made in this way from the point where the postdamming wax stopped around the tuberosity and along the periphery and just below the crest of the flange, but not quite to the frenum. Do the same on the opposite side and seal the wires on both sides in place with the hot spatula. Warm these wax wires on both sides at one time, and flatten them slightly with the fingers. Insert into the mouth with a strong upward and backward pressure, which will flatten out this wax. It is not our desire that this wax should cover a large area. Only a narrow area is required to equalize pressure.

Technic for the Lower Impression

The technic for the lower impression is much like that for the upper. It will require one and one-half sheets of black compound. While it is being warmed a wire of about 12-gauge, flattened on two sides and of a length to go around the impression from heel to heel,

over the ridge, is prepared. Some pieces of round and flat wire of this size and length should be kept on hand.

Remove the compound from the hot water and dry with a towel. Shape it to fit the tray. Bend the wire to about the form the ridge will have, heat it, lay it in the tray and shape compound over it. The heat of the wire will be sufficient to cause it to settle into the compound. So shape the compound with the fingers as to give the bulk of material in the posterior regions.

In taking lower impressions, I have not ordinarily inserted the tray far enough into the mouth and on many occasions, when I thought I was using great care I would find, on removing it, that the crest of the lower ridge was too far back in the impression. My tendency was to use too large a tray so that the heel interfered and I did not get the tray far enough back into the mouth.

When the tray is in the mouth, it should be held firmly with the fingers. The cheeks should be pulled up and over on each side vigorously. Do not forget, during the pulling, to hold the tray down firmly enough to prevent any movement of the impression. Have the patient protrude the tongue at the same time and work it from side to side.

The impression should not be chilled in the mouth because we are not trying to get fineness of adaptation and fit. The impression should be removed from the mouth and chilled and then removed from the tray. It should be trimmed so that the walls are about 3/16 inch thick. It should be trimmed vertically with regard to the buccal ridge on the outside and to go just below the mylohyoid ridge on the inside.

Dr. Campbell did not drill a hole in the lower impression. The only reason for the hole in the lower impression would be to permit escape of the plaster.

Re-adapt the posterior margin to the lower impression on both sides, using the same technic as for the upper. You may pull the cheeks upward vigorously because you will not get them higher than the patient will in speech and mastication. To re-adapt the anterior portion, the lower lip is kneaded upward and inward with the thumb and fingers, but it is not pulled up. A weak point with me has been not to get the impression sufficiently adapted in the anterior region.

The lingual flange is re-adapted by tracing-stick technic and trimmed with the knife to 1/16 or 1/8 inch below the crest of the mylohyoid ridge.

Peripheral damming with wax wire should be done as in the upper; but do not carry this wax wire onto the mylohyoid ridge or any other hard structure or you will have trouble. Do not carry it across the lingual frenum.

The lower impression is then ready for the plaster wash. The

lower impression is not scraped to allow for plaster as was the upper. Dry the impression, add plaster and insert in the mouth.

The plaster wash is made of the following: plain water, 1 oz.; saturated solution of potassium sulphate, 1 oz.; fine impression plaster, about six (6) level dessert-spoonfuls. Spatulate from 60 to 80 seconds. Place a sufficient amount of this mix in the impression and press to position. Try a few experimental mixes before attempting to use it in the mouth.

I have broken a considerable amount of plaster in some cases and have had to retake the impression. If you can get the impression out of the mouth without breaking much of the plaster or breaking the wax-wire damming, you will be safe; but if you break the wax-wire damming, you will have to redam it. Lay the lower impression aside to dry. When it is dry, coat it with a shellac made by dissolving one ounce of shellac in four ounces of alcohol and filtering it through filter paper. Coat the entire impression with this and later with sandarac.

Mix a mass of plaster and put on a slab or on paper and work the impression down into it. Shape it roughly and let it harden. The shaping of this mass, by cutting, will be greatly facilitated if you employ a saddler's knife, with a rolling motion. Shape the plaster box to present a flange on the side, about 3/16 inch, to allow the impression to show above the plaster throughout its entire peripheral margin and expose the effects of muscle trimming.

To separate cast from boxing, cut boxing with saddler's knife down to the high points of the impression compound. Break off with a hammer and chisel the balance of the plaster boxing. Warm compound slowly over Bunsen flame and strip off. The plaster wash, if previously well coated with shellac and sandarac, can be readily removed from the cast.

Pyorrhea*

By Millard D. Gibbs, D.D.S., Adairville, Ky.

It is not my purpose nor my intention to go into this subject in a scientific way, but I do hope that in a plain, practical manner I may be able to refresh your memory and possibly present to you something that will pay you in a way for your time. Do not misunderstand me; I am not before you as a specialist in pyorrhea, but as a general practitioner of dentistry, trying hard to combat this much talked-of and dreaded condition.

I have always tried to be honest in my dealings with my fellow men, and for about fourteen years I never made any attempt to treat pyorrhea in the strict sense of the word. Why? Because I never had any confidence in my ability to accomplish results. I am glad to tell you today that such is not the case.

For a little less than two years I have been doing a great deal of pyorrhea work and have gotten results that have really astounded me, to say nothing of how pleasing the results have been to my patients. They return to me after one or two treatments and are loud in their praise of the results that have been obtained.

I find many cases where I do not deem it necessary to give the second treatment, but there are some cases that require a great deal more attention. We know that some pyorrhea subjects wait too long before presenting themselves for treatment, for where the alveola has been, in a large degree, all destroyed by the ravages of the disease, it is only right and proper that we advise extraction. However, I have seen some teeth that looked hopeless respond to treatment.

I wish to impress upon you that I do not think that I have the only good treatment for pyorrhea, but I do claim that it gets better results than any I have known. Since I have joined the ranks of men who are treating this condition I can more fully appreciate the efforts they have been putting forth along this line; and I now believe that every one practising general dentistry should take up this line of work and render a real service to those who place their mouths in his care.

What I bring to you may not be new but I am going to try to present it to you just as I have found it and see it.

We find this dreaded disease showing only slightly, maybe, in one or two teeth, but are our suspicions aroused sufficiently by that to cause us to examine the entire mouth carefully for further evidence of a pyorrhea condition? If not, let me implore you to suspect such a condition and look for it, for, if it has progressed sufficiently around one

* Read before the joint meeting of the Southwestern and West Central Kentucky Component Societies at Hopkinsville, Kentucky, August 16-18, 1923.

or two teeth to show, you can almost rest assured that it is beginning elsewhere.

My plan is to advise the patients who show only a trace of it, here and there, to have the entire mouth treated as a prophylactic or preventive measure.

When we find bleeding and spongy gums, let us scale and give a regular pyorrhea treatment to guard against a true pyorrhea resulting later. If we will examine the mouths of all the patients who place themselves in our care, we will find in some mouths that appear healthy that this disease really exists and pus is being thrown off daily. Do not wait for a recession of the gums, or heavy deposits and the sight of pus, or looseness of teeth before pronouncing the condition that of pyorrhea.

A few years ago I attended a pyorrhea clinic given by Dr. Rose of Bowling Green, Kentucky, and I remember a statement that he made that sounded a little extravagant to me then. It was that when he found the presence of calculus in the mouth, he considered it as pyorrhea in its incipiency. Now that I have been giving this subject really careful attention, I am convinced that he was just about right, for where such conditions are neglected, especially in acid mouths, there is a greater tendency for deposits to form. The greater the deposits the greater the recession of the gums with a greater deposit of food particles, and with an acid mouth a greater amount of fermentation, which acts as a fertile soil for the growth of pus germs. We know too well what follows.

Let us get from our patients the family history and when a record shows the ravages of pyorrhea in mother, father, or grandparents, let your suspicions be aroused. Watch that patient's mouth from time to time, and warn him of the hereditary tendency.

Explain the proper use of the brush and dental cream or mouth wash, and advise the importance of having the mouth examined at least every three months and the necessity of being sure that deposits are promptly removed. In the different types of gingivitis (mercurial, suppurative, etc.) where these conditions exist and are neglected they will in many if not in all instances result in pyorrhea. Therefore, go after them and ward off this possibility. When in doubt, call it a form of pyorrhea, or pyorrhea in its incipiency, and you will not go very far wrong, for the treatment that will overcome the one will in many cases overcome the other.

Natural absorption of alveola is not to be overlooked in dealing with pyorrhea, for this condition begins possibly about thirty-five years of age but is very noticeable in many mouths at the age of fifty. It is about this age, in cases where the teeth are still firm yet present heavy deposits and badly inflamed gums, that we should not be too hasty in

making an unfavorable prognosis, for after the surgical treatment you will find the destruction of alveola has not been so great from the action of pus as you had thought; and by looking after these mouths you can enable those patients to keep their natural teeth the rest of their days. Too much stress cannot be placed upon the surgical treatment, or what we commonly call "scaling," and when you scale, be sure you do scale and go down as far as the deposit goes, else you will not get the results you hope to attain. I prefer the file-type instrument, but I have many kinds and sometimes use them all.

For your patient's sake, and to save those teeth, to say nothing of your reputation in treating pyorrhea, go after those deposits! After you have done the surgical work, you should then have the patient use a strong saline solution to control the hemorrhage before applying the medicinal treatment.

In treating pyorrhea or any other pathological condition, always keep in mind this fact: that the best and all that any of us can do is to assist nature, which is the best doctor known where she is given a real chance with the proper assistance.

So with this thought, give nature a chance before you apply your second treatment to those pockets where you have operated by letting one week elapse before disturbing the healing process. In many instances, after having waited a week, the results will be such that you will do nothing further, for you will find the gum firm and pink, hugging the necks of the teeth, with no signs of pus or any inflammation.

Medicinal Treatment

I am using trichloracetic acid in a 15% solution, applying it with a barbed broach. The sharp point is removed and a small amount of cotton twisted around it. Then with that I pump the acid solution well down around the neck of the teeth into the pockets. It is not necessary to protect the parts, but the mouth should be washed out frequently during application of acid. It will turn the gums a little white around the gingival or where it may trickle down, but it does no harm, for in this strength it is very healing to the mucous membrane.

If I encounter a stubborn pocket, after waiting a week I scale that particular tooth, or teeth, again and use a 25% solution of the acid, and, if necessary, at subsequent sittings I go back to the use of the 15% solution.

In very bad conditions I sometimes apply to the badly inflamed area tincture of iodine in connection with the above treatment. If in a week after the acid treatment has been given the patient returns and I find a slight reddening of the gum at the gingival margin, I apply a mild solution of chromic acid with cotton to those parts, which usually

clears up that condition. (10 grains of chromic acid to the ounce of water makes the proper solution.)

I instruct my patients to use a salt-water mouth massage and advise the use of a reliable dental cream for cleansing purposes.

I use a card system and notify by mail about every three months those I am treating for pyorrhea.

If you who are not attempting to handle this disease will begin by doing as I have tried to outline, I believe you will be very agreeably surprised to find that you can really handle successfully this disease which has been such a bugbear so long.

There have been different theories advanced relative to pyorrhea and we may be inclined to accept them fully or partially; but there are some things we do know, and one is that pyorrhea conditions do bring about constitutional or systemic disturbance. Accordingly, we should work hand-in-hand with our brothers in the medical profession and let them see and know that we can clear up these sources of focal infection in many, many instances without the use of forceps.

Then, if pyorrhea can cause systemic disturbances, isn't it reasonable to suppose that in some cases systemic conditions can cause a pathological condition to exist in the mouth? I believe that condition exists when the system is charged with uric acid, and in a diathesis of that nature that we are justified in resorting to an alkaline systemic treatment in connection with the local medication, plus a regulated diet.

In conclusion, do not overlook the use of ligature wire in holding loose teeth in position and also use the stone to relieve high articulating points in occlusion. Be sure to watch for overhanging margins of crowns and fillings, and dress them down. Finally, be sure you do not neglect to sterilize your instruments thoroughly.

Book Review

GERIATRICS—*A Treatise on the Prevention and Treatment of Diseases of Old Age and the Care of the Aged, by Malford W. Thewlis, M.D., Editor, Medical Review of Reviews; Associate Editor, The Therapeutic and Dietetic Age; with introductions by A. Jacobi, M.D., LLD., and I. L. Nascher, M.D. Second Edition, revised and enlarged. Published by C. V. Mosby Company, St. Louis, 1924.*

I regard this as a very important book, the best book on the subject of which I have any knowledge. It is sane; the author is not a faddist. He knows his subject. The book is well written.

The book is also important because less attention has been given to the subject than to many other specialties in medicine, perhaps because there is a sort of tacit understanding that when a person is approaching his seventh decade of life he has not much further claim, according to the Bible and the common view of mankind, on nature or the curative sciences. This is well illustrated in the opening of Dr. I. L. Nascher's introduction to this volume. He says: "Three incidents in my career led to the closer study of the senile organism, and the introduction of geriatrics as a special branch of medicine. During my student days, in the early eighties, an instructor took a number of students to the almshouse to see cases. An old woman hobbled up to the instructor with some trivial complaint. He afterwards told us that she was suffering from 'old age!' And what could be done for her? Nothing. Suffering from old age and nothing could be done to relieve her suffering! Is old age, then, a disease from which those who had reached an advanced life were doomed to suffer? This incident, as vivid today as it was nearly thirty-five years ago, laid the foundation for the branch of medicine to which I gave the name of 'Geriatrics'."

This book is written in forty-three chapters, some of the headings of which are as follows: *The Value of Old Age. The Care of the Aged. Work for the Aged. Diet in Old Age. Arteriosclerosis. Senile Heart Disease. Senile Nephritis. Senile Diabetes. Senile Rheumatism. Senile Asthma. Senile Bronchitis. Senile Pneumonia. Senile Prostatic Hypertrophy. Electrotherapy in the Aged. Diagnostic Errors in the Aged. Sexual Life in the Aged. Radium Therapy in Senile Cases, Etc., Etc.*

The reviewer is not writing an extended notice of this work, because he thinks he can render the best service to the members of the dental profession by saying: "Buy this book and read it, every word of it, and the knowledge you will have thus gained may add from five

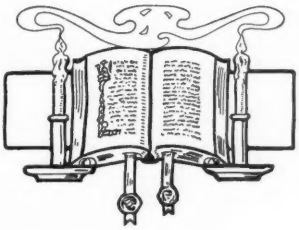
to twenty years to your life. Many of the diseases from which men die in early old age might easily be avoided if the facts in this book were known and the advice heeded."

A knowledge of the conditions of health, particularly in advancing years, is one of the very best forms of life insurance.

J. Leon Williams.

The Dentist Had to "Show" Him

In Sir J. Rennell Rodd's "Memories," recently published, appears an amusing story of the ex-Khedive of Egypt. Ismail was suffering from severe toothache. There was only one remedy—the usual one. The tooth must come out. "Yes," said Ismail to the European dentist, "but that will hurt me." "Not at all," said the expert, "I shall give Your Highness gas, and you will not feel anything." Ismail was interested, but dubious. "Bring up one of the sentries from the palace gates," he ordered. The wretched fellow was produced. "Now give him gas." The gas was administered. "Pull out one of his teeth." Out it came without much trouble. Still the Khedive was nervous. "Give him some more gas and pull out another," he commanded. This was done, and the victim admitted he had felt nothing. But a mere fellah might not be very sensitive. Ismail wanted further proof. A woman from the harem was requisitioned and subjected to the operation. Then at length the Khedive submitted, and was well satisfied. The dentist was liberally rewarded by a handsome sum in Treasury bonds—which were not honored!



Preliminary Program of the Dental Society of the State of New York

The 56th annual meeting of the Dental Society of the State of New York will be held at Kalurah Temple, Binghamton, N. Y., May 7th, 8th, 9th and 10th, 1924.

A cordial invitation is extended to all ethical practitioners, residents of New York or adjoining states. Admission to all literary meetings and clinics will be upon presentation of cards showing membership in State or American Dental Societies.

All literary exercises, clinics and exhibits will be held in Kalurah Temple. Dr. Thomas R. Cullen, Oswego, N. Y., is chairman of the Exhibits Committee, and those desiring space should communicate with him immediately.

The headquarters are at the Hotel Arlington. Hotel reservations should be made direct with the hotel management.

The Executive Council will meet, for the transaction of business, Tuesday, May 6th, at 3:00 P. M.

The program is as follows:

WEDNESDAY, MAY 7

10:00 A. M. Invocation .....Rev. Dr. Tanner
Address of Welcome.....Mayor Giles
Address of Welcome, Binghamton Dental Society
Dr. Leo Brady
10:45 Vice-President's Response.....Dr. J. W. Canaday
11:00 President's Address .....Dr. Charles M. Dunne
11:30 Committee Reports and Scientific Research
2:00 P. M. "Some Fundamentals Advisable in the Construction of Full Dentures"...Dr. Charles Lane, Detroit, Mich.

(DISCUSSION)

4:00 P. M. Report of Insurance Committee
Report of National Relief Association
8:00 P. M. "An Original Method of Applying Porcelain and Fixed Bridgework and Simplified Jacket Crown Construction" .....Dr. William H. Elliott, Detroit, Mich.

(DISCUSSION)

THURSDAY, MAY 8

9:30 A. M. "Crown and Bridgework and the Manipulation of Inlay Waxes, Investment and Casting Gold"
Dr. Emory C. Thompson, Warren, Pa.

(DISCUSSION)

2:00 P. M. Surgical and Progressive Clinics

6:30 P. M. Oral Hygiene Dinner. Prominent speakers on this subject, from various parts of the country, will be heard after dinner.

FRIDAY, MAY 9

9:30 A. M. Clinics and demonstrations by the Dental Hygienists Association of the State of New York and the Dental Assistants Society of the State of New York.

2:00 P. M. "A Further Consideration of Apical Infections"
Dr. Thomas L. Gilmer, Chicago, Ill.

(DISCUSSION)

4:00 P. M. Reports of Officers

8:00 P. M. Presentation of the Jarvie Fellowship Medal
"The Relation of a Healthy Mouth to a Healthy Body"
Dr. Harvey W. Wiley, Director, Bureau of Foods, Sanitation and Health, Washington, D. C.

SATURDAY, MAY 10

9:30 A. M. Surgical and Table Clinics

Honorable Henrik Shipstead, United States Senator from Minnesota, a member of the dental profession, has accepted an invitation to attend the meeting and make an address.

During the time of the meeting of the New York State Dental Society, sessions of the New York State Dental Hygienists Association and the Dental Assistants Association will be held.

Every effort is being put forth to make this meeting one of the most attractive in the history of the Society. A cordial invitation is extended to all ethical practitioners. Application has been made to the Trunk Line Association for reduced railroad rates. For further information and programs address A. P. Burkhart, Secretary, 57 East Genesee Street, Auburn, N. Y.

Massachusetts State Dental Society Meeting

Boston, Mass., May 5-9, 1924

TRANSPORTATION INFORMATION

Reduced rates will be authorized on the Certificate Plan. That is, fare and one-half rate will be granted, provided two hundred and fifty tickets (where the one-way rate is sixty-seven cents or over) are sold to members or dependent members of their families, and provided all

other conditions are carried out. In order that the plan may be successful, be sure to do your part.

Each member should request a certificate, not a receipt, for each ticket purchased, and upon arrival at the meeting should present his certificate to the Transportation Committee for validation. The validation certificates will be returned to him on Thursday afternoon, May 8th.

The reduced fare returning will apply only via the same route as traveled on the going trip as shown by the certificate.

Limited Trains. Return ticket issued at the reduced fare will not be good on any limited train on which such reduced fare transportation is not honored. Through tickets and certificates should be secured early.

Please remember that 250 certificates must be validated by the Transportation Agent to make the plan a success.

Arrangements have been made with the following lines and others not listed:

New England Passenger Assoc'n. New England States and also stations in State of New York on the lines of the Boston and Albany, Boston and Maine, and New York, New Haven and Hartford Railroads.

Trunk Line Assoc'n. New York, New Jersey, Pennsylvania, Delaware, District of Columbia, Virginia, and part of West Virginia.

For further information address

W. M. Flynn,
W. Henry Grant,
J. Russell McKinnon,
Committee on Transportation,
Massachusetts Dental Society.

474A Broadway,
South Boston, Mass.

Russian Relief Fund Contributions

AMERICAN DENTAL ASSOCIATION

*ARKANSAS STATE DENTAL SOCIETY	.....	$5.00
*CALIFORNIA STATE DENTAL SOCIETY	.....	685.10
*COLORADO STATE DENTAL SOCIETY	.....	302.50
*CONNECTICUT STATE DENTAL SOCIETY	.....	400.00
DISTRICT OF COLUMBIA DENTAL SOCIETY	.....	100.00
*FLORIDA STATE DENTAL SOCIETY	.....	200.00
*GEORGIA STATE DENTAL SOCIETY	.....	50.00
*ILLINOIS STATE DENTAL SOCIETY	.....	2,104.00
*INDIANA STATE DENTAL SOCIETY	.....	233.00
*IOWA STATE DENTAL SOCIETY	.....	110.00
*MARYLAND STATE DENTAL SOCIETY	.....	5.00
*MASSACHUSETTS STATE DENTAL SOCIETY	.....	5.00
*MICHIGAN STATE DENTAL SOCIETY	.....	5.00
*MINNESOTA STATE DENTAL SOCIETY	.....	20.00
*MISSISSIPPI STATE DENTAL SOCIETY	.....	200.00
*MISSOURI STATE DENTAL SOCIETY	.....	10.00
*NAVY DENTAL CORPS	.....	2.00
*NEW JERSEY STATE DENTAL SOCIETY	.....	10.00
NEW YORK STATE DENTAL SOCIETY		
*Previously reported	$830.00	
Eastern Association of Graduates of Angle School of Orthodontia, New York	50.00	
		880.00
*NORTH CAROLINA STATE DENTAL SOCIETY	.....	300.00
*NORTH DAKOTA STATE DENTAL SOCIETY	.....	10.00
OHIO STATE DENTAL SOCIETY		
*Previously reported	500.00	
L. P. Bethel, Columbus	12.50	
		512.50
*OKLAHOMA STATE DENTAL SOCIETY	.....	4.00
PENNSYLVANIA STATE DENTAL SOCIETY		
*Previously reported	167.00	
Reading Dental Society	50.00	
		217.00
*SOUTHERN CALIFORNIA DENTAL SOCIETY	.....	632.00
*SOUTH DAKOTA STATE DENTAL SOCIETY	.....	11.00
TENNESSEE STATE DENTAL SOCIETY		
*Previously reported	55.50	
Nashville Dental Society	34.50	
		90.00
*TEXAS STATE DENTAL SOCIETY	.....	214.00
*WASHINGTON STATE DENTAL SOCIETY	.....	10.00
*WEST VIRGINIA STATE DENTAL SOCIETY	.....	2.00
WISCONSIN STATE DENTAL SOCIETY		
*Previously reported	15.00	
Wisconsin State Dental Society	600.00	
		615.00
Total received from State Societies		7,944.10
*Contributions paid direct to Dr. Florestan Aguilar, Madrid, Spain		2,604.00
Total—American Dental Association, March 15, 1924		$10,548.10

AMERICAN DENTAL TRADE ASSOCIATION

*Previously reported	$5,327.00	.....
Detroit Dental Mfg. Co., Detroit, Mich	50.00	.....
Lee S. Smith & Son Mfg. Co., Pittsburgh, Pa	50.00	.....
Dental Products Co., Chicago, Ill	25.00	.....
Altenburg Dental Supply Co., Portland, Me	10.00	.....
		5,462.00

FOREIGN

*Previously reported	7.17
Grand Total—March 15, 1924	$16,017.27

* Itemized list of contributors published in previous issues of The Dental Digest.

Japanese Relief Fund Contributions

AMERICAN DENTAL ASSOCIATION

*Previously reported	.....	$241.50
Truman W. Brophy, Chicago, Ill.		
To Dr. Chiwaki	$150.00	.....
To Dr. Nakahara	150.00	.....
To Dr. Sato	150.00	.....
		450.00
ROCHESTER (N. Y.) DENTAL SOCIETY		
Ten dollars from each of the following: H. W. Allen, John Banks, M. C. Bradley, C. L. Brininstool, S. R. Bryant, H. J. Burkhart, G. E. Burns, C. D. Chase, L. H. Gilbert, B. S. Hert, Paul Jones, E. G. Link, G. C. Lowe, J. T. McIntee, Albert Sager, E. L. Schlottman, W. W. Smith, Marvin Welcher, R. H. Wickins	190.00	.....
Five dollars from each of the following: F. L. Agnew, T. G. Blatau, J. H. Carey, B. F. Clark, J. A. Donavan, J. E. Dunn, C. D. Forkel, J. A. Gaffney, L. S. Goble, B. A. Goldblatt, G. D. Greenwood, C. A. Howland, E. F. Lewis, Howard Lewis, C. G. Lynch, J. V. Maloney, F. Messerschmitt, J. L. Middaugh, C. F. Moll, G. C. Morsheimer, Byron Palmer, C. J. Pierce, F. W. Proseus, B. S. Saunders, F. J. Shaddock, A. S. Smith, A. A. Sullivan, H. A. Thiede, F. H. Tinsman, J. L. Weller, Jr., S. G. Wheeler, W. H. Wilson	160.00	.....
Three dollars from each of the following: Wirt Conklin, J. T. Hempel, G. P. Marvin	9.00	.....
H. F. Eckler	2.00	.....
		361.00
Eastern Association of Graduates of Angle School of Orthodontia, New York	.....	50.00
L. P. Bethel, Columbus, Ohio	.....	12.50
A. M. Geesy, Uniontown, Pa	.....	5.00
Yellowstone Dental Society, Billings, Mont	.....	5.00
Total—March 15, 1924		$1,125.00

* Itemized list of contributors published in previous issues of The Dental Digest.

FIRST DISTRICT DENTAL SOCIETY, NEW YORK

Dr. Herbert L. Wheeler, chairman of the committee from the First District Dental Society, New York, in charge of the Japanese Relief Fund, has submitted the following list:

Previously reported (January Digest)	$706.00
First District Dental Society	241.77
M. L. Rhein, New York	25.00
Dentists of Tampico, Mexico, as follows: E. E. Foster, 20 pesos; A. Z. Korrodi, 20 pesos; F. Lee, Sohn, 10 pesos; Dr. Schonhofer, 5 pesos	26.80
Ten dollars from each of the following: D. C. Baker, W. A. Spring, W. W. Walker, of New York; L. H. Fradkin, Montclair, N. J.	40.00
Five dollars from each of the following: F. A. Crookshank, A. V. Greenstein, J. T. Hanks, Milo Hellman, W. H. Mork, Henry Schwartz, R. W. Sweetser, R. W. Tench, of New York; W. A. Nichols, Medina, O.; O. J. Olafsson, Chicago, Ill.	50.00
C. A. Bush, Brooklyn, N. Y.	3.00
Samuel Abraham, New York	2.00

One dollar from each of the following: Samuel Andres, Brooklyn, N. Y.; O. F. Foster, Sullivan, Ill.; T. W. Kelton, Charleston, Ark.; M. S. Lowenstein, New York; W. B. Rubin, East Falls, Philadelphia, Pa.; S. L. Scott, Greenville, Miss.; E. R. Voss, Los Angeles, Cal.; D. L. Yingling, Johnstown, Pa.; I. E. Zimmerman, Rye, N. Y.; a Michigan dentist..... 10.00

$1,104.57

Free Shipment of Dental Materials to Japanese Dentists

(Editor's Note: Dr. Wheeler is in receipt of the letter which follows from the President of The Standard Oil Company.

In this connection, care should be taken to forward only instruments or appliances in usable condition. At least half of what has so far been sent to this magazine has been entirely useless. Hopelessly broken appliances, brush wheels worn down to the wood, etc., are useless to the recipient and not creditable to the donor.

Books not entirely obsolete will be welcomed.)

STANDARD OIL COMPANY OF NEW YORK
26 BROADWAY

HERBERT L. PRATT,
President.

New York, March 11th, 1924.

Dr. Herbert L. Wheeler,
20 East 53rd St., New York.

Dear Dr. Wheeler:

I have yours of March 7th, and in reply would say that our company will be very glad to ship without expense to you, for your dental associates, such material as you may wish shipped to Tokio, Japan. Our boats leave from both New York and San Francisco (many more of them, however, from San Francisco than from New York), and we can give you the dates of sailing after you advise us when the goods are ready to ship.

It will be quite all right also for you to distribute the money through Mr. Goold, if he is agreeable to undertaking such responsibility.

Because of our shipping not being directly under my supervision, won't you be good enough to address any further communications to Mr. F. S. Fales, 26 Broadway, who has charge of that department, is the Secretary of our company, and who has a copy of this letter of mine to you.

Sincerely yours,
H. L. PRATT.

DENTAL LAWS

Summary of Dental License Requirements Throughout the World

By Alphonso Irwin, D.D.S., Camden, N. J.

JAVA

No diploma from a foreign (non-Dutch) dental college is recognized in Java. Should a person wish to practise in this colony, he must pass an examination in Holland. No (foreigner) American could pass the examination in Java. For further information address Schoot Tot Opleiding van Inl. Artson, Batavia, Java, Dutch East Indies.

JUGO-SLAVIA

Jugo-Slavia is officially known as the Kingdom of the Croats, Serbs, and Slovanes. The form of government existing, upon the latest reports, is represented as a constitutional hereditary monarchy. Pre-war official advices stated that medical supervision, degrees, standards and examinations were required; also the use of the national language and naturalization. No reliable post-bellum information about dental license requirements, or medical or dental legislation, has been published, owing doubtless to the unsettled conditions prevailing in that region of Europe. It is reasonable to infer, however, that such conditions will prevail for some time to come, in regard to the license requirements of professionals.

KANSAS, U. S. A.

Dates of Acts, Amendments and Repeals: 1885, 1887, 1901, 1903, 1907, 1909. Board of Examiners: F. O. Hetrick, President, Ottawa; W. H. Kirby, Vice-President, Clay Center; Geo. E. Burket, Sec'y-Treas., Kingman. Dental Laws dated 1885, 1887, 1901, 1903, 1907. Law amended 1909. Requirements: High School Certificate (N.A.D.E. Standard), Dental Department.

June and November examinations usually held in Topeka or Kansas City, according to the announcement.

Theoretical subjects: Anatomy, Histology, Prosthesis, Oral Surgery, Materia Medica, Chemistry, Metallurgy, Orthodontia, Physiology, Oral Hygiene, Operative Dentistry, Bacteriology, Anesthesia, Therapeutics. Practical examinations consist of gold, amalgam and cement fillings.

inlays, pulp canal technique, and a plate. (Definite announcements made just prior to examinations.) License fee $25.00.

Reciprocity with Arkansas, Iowa, Ohio, Tennessee, District of Columbia, Louisiana.

Verified November 13th, 1923.

Kansas Law of 1909.—Abstract

Section 2: That Section 3 of chapter 227 of the laws of 1903 be amended to read as follows:

Section 3. No person unless previously registered or licensed to practise dentistry or dental surgery in this State at the time this Act shall become operative, shall begin the practice of dentistry or dental surgery, or any branch thereof, without first applying for and obtaining a license for such purpose from the Kansas State Board of Dental Examiners. Applications shall be made to said Board in writing, and shall in every instance be accompanied by an examination fee of twenty-five dollars ($25.00), together with satisfactory proof that the applicant is of good moral character and twenty-one years of age or over at the time of making the application.

Application from the candidate who desires to secure a license from said Board to practise dentistry or dental surgery in this state shall be accompanied by satisfactory proof that the applicant so applying for the license has been engaged in the actual, legal and lawful practice of dentistry or dental surgery in some other state or country for five consecutive years just prior to application; or is a graduate of and has a diploma from the faculty of a reputable dental college or school, or dental department of a reputable university, and possesses the necessary qualifications prescribed by the Board. When such application and the accompanying proof are found satisfactory, the Board shall notify the applicant to appear before it for examination at a time and place to be fixed by the Board.

Examinations shall be theoretical and practical, and shall be of such a character as to test the qualifications of the applicant to practise dentistry or dental surgery. All examinations provided for in this Act shall be conducted by the Board, which shall provide for a fair and wholly impartial method.

Section 3. That section 3 of chapter 196 of the session laws of 1907 be amended to read as follows: Any person who shall practise dentistry or dental surgery in this state without being registered or without a license for that purpose, or violates any of the provisions of this Act, shall be subject to prosecution.

KENTUCKY, U. S. A.

The Board of Dental Examiners consists of—President, W. P.

Walz, Lexington; Secretary, J. H. Baldwin, Louisville; C. W. Meguiar, Franklin; R. P. Keene, Owensboro; Edwin Matthews, Maysville; Professor Samuel B. Tindsley, Louisville, Official Preliminary Examiner.

The dental acts are dated 1867, 1886, 1893, 1904, 1908, 1912.

The English language, dental supervision, registration and examination are required. The examinations are held in the last week of June and first week of December, in Louisville, fee $20.00.

College entrance matriculation credentials, or fifteen units, are the preliminary educational requirements necessary in order to be eligible for the examinations; also graduation and a diploma from a reputable dental college. The theoretical examinations include the usual subjects taught in a standard dental college, and the practical tests employed are likewise such as are employed in a reputable dental school. Details are announced just prior to each examination.

Reciprocity with states having like standards by mutual agreement, if the law provides for the same.

Annual renewal of the license with the Secretary of the State Board of Dental Examiners, before December 31st, fee $1.00. Initial registration with the County Clerk of the resident, fee fifty cents.

Secretary, J. H. Baldwin, 640 Atherton Building, Louisville, Ky.

Laws of 1912: Abstract Regarding Examinations

Licenses and Registrations and How Granted. No. 3. No person shall practise dentistry in this state or attempt to do so after the passage of this Act without first applying for and obtaining a license for such purpose from the said Kentucky State Board of Dental Examiners, and registering such license as herein provided, and this provision applies to all persons whether they have heretofore practised dentistry or not in this state, except such persons as have heretofore been licensed and registered. Application shall be made to the said Board in writing for license and shall in every instance be accompanied by the examination fee of twenty dollars, which sum is authorized to be charged for each examination by said Board. The applicant must be of good moral character, at least twenty-one years of age at the time of making the application, and the application of each person seeking a license must be accompanied by satisfactory evidence to said Board that the applicant so applying is a graduate of and has a diploma from the faculty of a reputable dental college, school, or dental department of a reputable university. Examinations must be both written and clinical, and of such a character as to thoroughly test the qualifications of the applicant to practise dentistry, and the Board may, in its discretion, refuse to grant license to any person they find guilty of cheating, deception, or fraud during such examination.

KHIVA

The capital is Khiva, population 5,000. Khiva is a vassal state of Russia, south of the Aral Sea, west of the Oxus River, north and east of the Russian Trans-Caspian province. It has a Soviet government. The people are Mohammedans. It possesses no attractions for professional men, and no dental license regulations are announced; local taxes must be paid and the local requirements must be obeyed under Soviet rule, *including permission to practise dentistry by the local authorities.*

KOREA

Graduates of recognized foreign dental schools, who possess the qualifications required by the laws of Japan, may obtain license to practise dentistry in Chosen. Control in these matters is vested in the Director of Internal Affairs Department, and the Chief of Gendarmerie and Police of the Government General of Chosen, Korea.

For other details, see *Japan and Chosen.*

KURDISTAN

No dental license regulations have been enforced in this region, for self-evident reasons. Permission from the local ruler and payment of the local taxes are necessary precautions.

KWANTUNG—SOUTH MANCHURIA

For dental practice and license requirements in Kwantung, consult *Japan,* under the subtitle of *Kwantung and South Manchuria.*

DENTAL ECONOMICS

An Address to Dental Students as the Dentists of the Future

By Dr. Hedley Ham, L.D.S., D.D.S., Melbourne, Australia

(*Continued from March*)

I have heard professional men say that what they do outside their office is of no concern to anybody. They delude themselves in trying to believe this, for every professional man is a semi-public man. He is open to criticism, and if he chooses to scorn good form, be lax in his morals and offend against the taste of right-thinking people by indulgence in any of the vices, he will surely suffer in his professional capacity. Even those of his associates from whom he might expect patronage are apt to send their families to a good professional man rather than to a "good fellow." I have seen many "good fellows" throw away their chances and become undermined in their characters and lose great success without recognizing the true reason; so wherever you may be located—in town or country (and the latter has its snares as well as the former) write this precept of success in a professional career on your heart, "Live Clean."

Bad habits stick, but so do good ones too, and this is the lesson I pass on to you. It is applicable to more things than morals, work, manners, mode of conversation, thought, dress, etc., and so if you wish to be successful you must begin now, at once, while you are pliable, to practise good habits. I need not tell you exactly how to do this. Your own intelligence should guide you, for there is no royal road to this knowledge. But this much I will say: Start on your hospital patients, treat them, converse with them, think of them, handle them and be as courteous as if they were more pretentious or more refined. Get rid of your careless talk, your careless attitudes and habits at the chair side. Don't rest your heavy arm on the patient's head, nor pull his mouth about. In practice a patient quizzes every movement of the new dentist, and when the patient cannot watch you the friend who accompanies will do so even more closely. It will be noted if you wipe the instrument on your coat, if you slouch on the chair, or do anything that is of

an unrefined nature. Later I will deal with this personal attention and demeanor of the dentist to his patient, but at present I just wish to emphasize the influence of good or bad habits learned at the chair side which generally remains with the dentist as he grows older. So, cultivate your manners, your conversation and your handling of the patient as well as your skill. You must learn to do good work, but you must also learn to do it deftly and with as little trouble and as much consideration to the patient as possible.

I am sure that you can build your practice with the right kind of clients if, working along the lines as I have suggested, you teach yourself to be courteous, tactful, sincere and refined as well as skillful. The right kind of patient besides all these things, however, demands the right quality of work, and it must be efficient. I have to my astonishment been told by students that good work does not pay, that the other fellow gets just as good a following without going through the hard and long work demanded by efficiency, and that just personality is responsible for the dentist's success, not his work. That may be so for a little while, but if he is going to stay for any length of time in the same practice he will soon find his "chickens coming home to roost" all right! Success never comes from following unworthy methods, and the man who is dishonest in his work, for that is what it means, is soon found out. You cannot "deceive all the people all the time."

Slipshod, careless, and even average work will undermine and break down your ideals and you will have to be content to be just average. Talking thus to a young man, he said "This kind of work pays better because the patient knows no better." There may be some truth in this plea because I think that the profession has not charged sufficiently for highly efficient work, but you, in the future, I hope, will remedy many of the present stupid ways of estimating fees and will demand and get an adequate reward for services rendered. After a year or two of practice the quality and the honesty of your work, if its standard is of the genuine hall mark, will become known, and once such a reputation is made, jealously guard it for the sake of your own honor and that of your profession. If you will do this, you will get all the right kind of work you want.

Some of you may say that these arguments pertain more to the city dentist than to the country dentist. There are perhaps more opportunities in the city, but in a modified way everything I have said applies to the country practice just the same. If you don't do some of the better kinds of work in the country, then you do your amalgams and vulcanite work in the very best possible way you know. Be honest, for honesty begets confidence all around. Respect yourself by asking an adequate fee. If you all do that you will put your profession on a much better footing than it is at present, and it is up to you to do it.

While on this subject of efficiency and the building up of practice, it might not be out of place to mention the advisability of the young practitioner working along lines that would give him a good grasp of some of the special branches to which he may feel himself more fitted than to others, and the day has arrived when our field of work has become so big and so arduous that no single man can cope with all its subjects in all their ramifications. It is a good thing, in my opinion, for a man to be in general practice for a while anyway, but in his early career he probably will have a good deal of spare time and that may be utilized to advantage by training himself for special work.

(Dr. Ham takes up the handling of patients in the next installment and gives some real suggestions for the dentist's conduct about the office.)

The pleasures experienced and the benefits derived from your last vacation would make an interesting article. Send photographs if you wish. . .

PRACTICAL HINTS

This department is in charge of V. C. Smedley, D.D.S., Prosthesis, and George R. Warner, M.D., D.D.S., X-ray and Diagnosis, 610 California Building, Denver, Colorado. To avoid unnecessary delay, Hints, Questions and Answers should be sent direct to them.

NOTE—Mention of proprietary articles by name in the text pages of the DENTAL DIGEST is contrary to the policy of the magazine. Contributions containing names of propietary articles will be altered in accordance with this rule. This Department is conducted for readers of the DENTAL DIGEST, and the Editor has no time to answer communications "not for publication." Please enclose stamp if you desire a reply by letter.

Editor Practical Hints:

I would appreciate information on the following subjects:

(1) Do you advise extraction in acute abscess cases when tooth is not to be saved, or is it best to lance the abscess and delay extraction until swelling subsides? There is such a difference of opinion about this that one hesitates about the procedure.

(2) In the upper jaw, is infiltration anesthesia supposed to be sufficient for pulp removal, cavity preparation, etc., or is block anesthesia necessary? I have had varied success with infiltration anesthesia, and am inclined to ascribe it to faulty technique, although it is good enough for extraction. Also why is the anesthesia sufficient for extraction and not for pulp removal, etc.?

(3) What is a pinledge attachment? Will you kindly describe its technique.

S. K.

ANSWER.—(1) My personal opinion is that the sooner an abscessed tooth is extracted the better, just the same as the sooner a thorn is removed from a suppurating wound in a thumb is better. Care should be exercised, however, not to force the anesthetic into the abscess area, and of course the infection should be removed as thoroughly as possible along with the tooth at the time of extraction.

(2) Infiltration with the injection made opposite the apices of the upper bicuspids will usually produce complete anesthesia of the pulp in these teeth, otherwise block anesthesia is undoubtedly preferable. The reason infiltration is sometimes sufficient for extraction while not producing complete anesthesia of the pulp is that its penetration has reached only the peripheral fibers not extending to the apical nerve

trunk, which is shocked by the sudden trauma of its severing as the tooth is removed, so that there is little or no pain accompanying the extraction.

(3) The pinledge attachment is a cast inlay or overlay which secures retentive form through the grinding of the tooth with grooves, shoulders or ledges connecting pins that are inserted to a considerably greater depth than the ledge or groove preparation at points as remote as possible from the pulpal area. When these preparations are skillfully made and accurately fitted they serve very satisfactorily for bridge anchorage on vital teeth.—V. C. SMEDLEY.

Editor Practical Hints:

I have a case supplying the posteriors from the cuspid back on the left side and the molars on the right side. Would you please give me your opinion as to the best way to supply these so that they can be made to stay in place without dropping down on the distal heel. So many of these cases I find have this trouble where clasps are used on the teeth anterior to those to be supplied. Do you think a full plate covering the entire arch is best in these cases? All teeth anterior to those mentioned are present. R. H. C.

ANSWER.—It is my opinion that patients should be given to understand that they should not expect a very tight fit in these cases. My personal decision as to the type of construction of dentures is always made after a study of the individual mouth conditions: that is, contour, relationship and condition of arches; condition and position of teeth, etc. I believe I have had the most successful results on the whole from the construction covering the entire palate with the exception of about one-fourth inch just distally to the teeth and with the alveolar attachment. This is a cast, highly polished clasp metal spur extending around the anterior gum just above the cuspid and lateral labial contour. This fitting does not attach to the teeth at all, and getting its bearing entirely upon the resilient gum tissue is frequently more satisfactory than where it is attempted to secure a balanced relationship between gum tissue and attachment teeth where all the teeth are situated so far anteriorly to the replacement.—V. C. SMEDLEY.

Editor Practical Hints:

What is the best procedure to follow in mixing inlay investments, consisting of floated silex and cast plaster as base? Am experimenting with investment compounds and do not get uniform mixture of the dry powders. I mean, of course, in compounding the investment, not wet mix of the finished product. M. E. R.

ANSWER.—We sift our investment ingredients through a fine sieve to secure a thorough mix of the same.—V. C. SMEDLEY.

Editor Practical Hints:

What do you think is the best method of removal of pulp where infection has set in, and the tooth is a posterior? I devitalize usually, but the tooth remains sore at times.

L. D.

ANSWER.—With such a pulp as you describe, in our office we believe in alleviating the congestion and reducing the infection so far as is possible with one or more applications of sedative cement liquid sealed in with sedative temporary cement for from one to several days each application. In some such cases we are able to avoid devitalization, but if not, at least the danger of after-soreness or infection is greatly reduced by the above procedure. Where devitalization and complete pulp removal do have to be resorted to, I think this is best done under nerve block followed by the immediate filling of the canals with sedative cement.—V. C. SMEDLEY.

Editor Practical Hints:

Please answer the following question in the DENTAL DIGEST:

Can a dentist administer general anesthetic, such as ether or chloroform?

E. F. W.

ANSWER.—If you mean does the law permit a dentist to administer a general anesthetic, it does in this state and I think that it does in all states, though there may be some exceptions.—V. C. SMEDLEY.

Editor Practical Hints:

What kind of a bridge do you advise in the case of a lower first molar missing, the bicuspid and second molar being sound teeth? Advise for either upper or lower case.

A. M. A.

ANSWER.—This question is answered in our practice entirely from a careful consideration of the particular individual case. In some of these one-tooth spaces we feel that the patient is better served if the space is allowed to remain without bridging. This is especially true where the teeth in the opposing jaw are supported by occlusal contact in a way to prevent their elongation and where the interlocking cusps of the teeth in occlusion tend to prevent the tipping over or drifting of the teeth adjoining the space. In addition to these mechanical con-

siderations, we feel that the skill of the operator should be perhaps the most important deciding factor, for unless these little bridges are skillfully and accurately made and seated in a way to avoid traumatic occlusion and the harboring of decay about the abutments, the patient is much better off with the unrestored space. If the teeth are perfectly sound, with favorable alignment, and the mouth does not show any active susceptibility to decay, we think a removable bridge with cast clasps is preferable, especially if the patient has unusually sensitive dentine or for this or other reasons dreads to have the abutment teeth cut into. If, however, one or both of the abutment teeth are more or less faulty in enamel texture or already contain fillings, we are more apt to advise fixed bridge construction, usually with cast platinized gold inlay abutments. We think in most cases porcelain dummies are preferable. These should be as nearly as possible of normal tooth contour, with a small saddle fitting snugly, but without compression upon the gum tissue.—V. C. Smedley.

Editor Practical Hints:

Please give me your advice on following case:

Teeth of middle aged woman were extracted on advice of physician. Two weeks after extraction I made temporary vulcanite denture.

Immediately she complained of soreness of gums. I advised not to wear plate for a while, also treated gums.

Still the soreness did not leave. After treating gums with all medicaments for three months gums continued to be sore. I then decided that gums were sore on account of the rubber in denture, and made an aluminum denture. The aluminum denture fits fine, but when in mouth about an hour the gums swell and denture is very hard to remove. Her health is good.

What is the cause of all the soreness and what shall I do?

M. B. L.

Answer—I should make sure of ample relief over the nerve and blood supply adjacent to the foramina and should trim the plate quite radically all around the periphery, polishing same to smooth, thick round edges and having the plate fit very loosely in the mouth. If this does not relieve the soreness and swelling, I should have a physician make a test for malignancy.—V. C. Smedley.

DENTAL LABORATORIES

The Part the Dental Laboratory Plays in Dental Ceramics

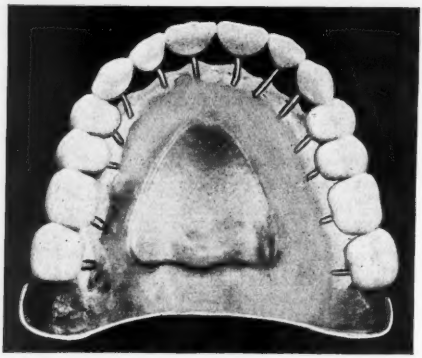
By B. H. Miller, New York, N. Y.

If the so-called jokes and would-be humorous articles which appear from time to time in the public prints can be accepted as a criterion, the general public is thoroughly convinced that the practice of dentistry is a rather "soft" job—that the dentist has an easy time of it. It seems to be the general opinion that all the dentist has to do is to inflict a certain amount of torture on a patient and then relieve him of whatever funds he may be able to scrape together! Those of us who are engaged in work incident to the practice of dentistry know that such a belief is not well founded, that the practice of dentistry is anything but easy, in spite of the great advancement which has taken place within the last decade or two in equipment, materials and methods.

There is no getting away from the fact, however, that the work of the dentist of today is infinitely less involved than it was some years back; and the one factor which has made this possible is the modern dental laboratory. If you dentists who read this have any doubt of the truth of this statement, just try to imagine what the result would be if you were to find, on awaking tomorrow morning, that all of the dental laboratories had suspended operation—that you would be obliged to rely upon your own resources to satisfy the demands of the public for present-day dental appliances.

That the laboratory is a recognized necessity today in the construction of dental restorations is an established fact. The laboratory is, indeed, almost indispensable. The average dentist knows all too well that he cannot do justice to all of his patients, or to himself, unless he enlists its services. If he were compelled to carry on without the aid of his able ally, if he were confronted with the problems which faced the pioneers in, let us say, porcelain work, he would be likely to consider himself greatly handicapped.

It required no small effort to bring about the development of mineral teeth, for example, but it was accomplished as far back as 1838. The continuous gum plate was produced by Dr. John Allen in 1845. Dr.

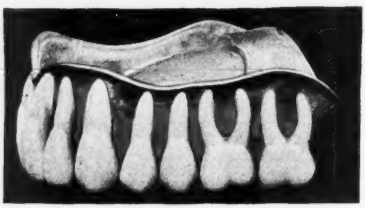


A continuous gum denture ready for baking, showing method of attaching teeth to base.

Land devised a method of burnishing a matrix in a tooth cavity in which porcelain could be fused in 1887. We certainly have gone forward since those days. Too much credit cannot be given to the men whose exceptional skill and capacity for research made possible these ideal means of restoration. Most of them have left us, but their works will live after them, a lasting monument to their untiring efforts.

When we stop to realize that the best dental minds of the times were engaged in developing porcelain restorations, we can understand why it is that there is an ever-increasing demand for such restorations in dental prosthesis. There is nothing to approximate porcelain as a medium for replacing or simulating tooth tissue. It is unrivalled. The few modern dental laboratories which were sufficiently well equipped to go forward with the work can justly claim credit for the almost universal demand which has been created for it.

When porcelain work was developed, the men who could do it justice were few and far between. Those who came after them displayed no inclination to cultivate a demand for a product which called for such painstaking effort. During the last nine years, due to the topsy-turvy conditions brought on by the war, platinum—necessary to the produc-



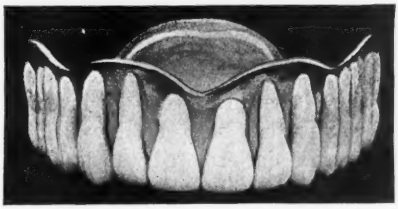
Posterior teeth used on a continuous gum denture.

tion of most porcelain appliances—was practically unobtainable and prohibitive in price. The result was that it devolved upon the relatively few capable dental laboratories to revive porcelain—to place it where it properly belongs in dentistry. Their work has been done so thoroughly and they have introduced so many appliances which feature this product that they are now practically alone in the field. It is doubtful if there are a dozen laboratories in the country today well enough equipped to attempt extensive bakings in porcelain.

In order to show the influence the dental laboratory has had in popularizing porcelain work, it is necessary to mention only a few of the more frequently used porcelain restorations:

1. Porcelain Jacket Crowns
2. Porcelain Faced Crowns
3. Porcelain Bridges with Root Restorations
4. Porcelain Inlays

In making continuous gum plates, the dental laboratory has again



Anterior teeth used on a continuous gum denture.

proved a valuable aid to the dentist. Beyond question, a continuous gum plate properly made is the finest type of denture known today.

Though the commercial laboratory has succeeded in overcoming the excessive weight of the continuous gum plate, bringing it down to the weight of a light cast plate, no one has, as yet, been able to simplify the technic to any great degree.

Constructing a continuous gum plate is a particular job and generally takes three weeks, from the swaging of the platinum base through the setting up of the teeth and various tintings and bakings to the finished plate. In such intricate work the laboratory is indispensable to the dentist.

Porcelain is just coming into its own. We shall see still greater things in the future.

141 West 36th Street.

Fundamentals in Cast Clasp Construction

By I. J. Dresch, Toledo, Ohio

(*Continued from March*)

When a narrow clasp with small tooth contact surface is desired, a wax gun is very useful. Some men have made these from discarded syringes. The barrel of the wax gun is filled with transparent wax such as is used for making the outline pattern of large clasps. The outlet is fashioned to suit; it may be half-round, round, or of any desired shape. The barrel is held over the Bunsen flame until the wax is workable, and by pressure on the plunger a wax wire of the shape of the outlet is obtained. The manufactured wax gun is supplied with several detachable outlet parts, which give wax wires of as many shapes. These may be modified to suit by partly filling the opening with soft solder.

Take a strip of the wax wire slightly longer than the circumference of the tooth and seal one end to the plaster model at a point not to be covered by the finished clasp. That is, if the clasp is to engage the lingual, distal and buccal, seal one end of the wax wire to the mesial side. Then bring the wire around the tooth, following the line you wish the finished clasp to cover. Then seal the end at the starting point.

Means must now be taken to prevent the investment material from getting beneath the wax pattern when the clasp is invested in the casting flask. For that purpose a dark-colored wax is best, as the contrast in color is an aid. This is important, as the accuracy of the wire and its placement will be lost if the wax wire is sealed with a bulk of wax sufficient to enlarge the wax pattern greatly. Some men find it best to melt the wax in chloroform. A small camel's hair brush is then used to paint the wax seal. This method is quite effective and does not destroy the contour of the wire wax pattern.

The plaster cast and wax pattern are now ready for the sprue and investing. It is best to have the sprue fairly small in diameter and about $\frac{3}{8}$ to $\frac{1}{2}$ inch long. The sprue of smallest diameter and maximum length tends to give smoother castings through the elimination of gases. Six clasps or more may be invested in the same ring, by the method which follows.

The usual heavy brass ring may be used, but a ring of thinner material, cut from brass tubing, will shorten the working time. As not more than 300° Fahrenheit is used in this method, the expansion of the brass ring need not be considered.

An excellent investment material may be made by using equal parts of plaster and commercial silica. With this material the wax pattern is now invested in the casting ring. Potassium sulphate may be added to the water to hasten the setting, without injury to the investment.

When the potassium sulphate is added to the water, the investment material will be hard in from seven to ten minutes. When ready for the wax elimination step which follows, the investment should break with a clean fracture.

When the investment is hard, proceed immediately to eliminate the wax. This is done by use of a wax eliminator, which applies the heat to the sides of the investment ring, causing dehydration of the investment and consequent elimination of the wax pattern.

Water placed upon a metal plate held over the Bunsen flame runs to the coolest point. We have all watched it hop away from the sizzling heat. The same effect is produced inside the casting flask or ring. Such an eliminator, by placing the heat *over the sides of the flask,* drives the water or free moisture toward the center of the flask. The water, which is almost at the boiling point, then melts the wax pattern and flushes the wax pattern chamber. The amount of water driven off is always a surprise to those who view the operation for the first time.

The flask is placed in the eliminator with the sprue facing downward. Only a small flame is used. Too much heat will cause the formation of steam within the flask and a small explosion which will ruin the investment. The size of the flame will depend upon the grade of gas used. With good artificial gas the length of flame will be about ¼ inch. Acetylene will require a flame about half that size. With a flame giving the ideal amount of heat it will require about six minutes to remove the wax.

For those who have never used the method it is best to experiment a little first. Invest a few wax patterns, *on plaster casts,* and eliminate the wax, adjusting the flame to do the work in about six minutes.

When the wax is removed, immediately place the flask in the drying oven. Leaving it in the eliminator may cause it to become so hot as to injure the plaster model.

At this stage we have a very smooth plaster tooth invested in the casting ring, and have removed the wax and most of the free water. But the free water in the plaster cast is still present, as sufficient heat has not reached it to drive this moisture away. The object now is to remove this moisture and prepare the way for casting the clasp, without injuring the smoothness and accuracy of the plaster cast. As plaster begins to disintegrate at a heat of approximately 400° Fahrenheit, the heat must be kept below that point. In fact, it has been found that best results are obtained by using 300° Fahrenheit for that purpose. This object may be achieved in different ways. Various furnaces have given good results.

It is a good plan to start the furnace before the flask is ready and by aid of the thermometer, which may be secured for the purpose, regulate the heat to maintain a temperature of 300° Fahrenheit. Then

place the flask in the furnace immediately after the wax has been eliminated. Leave the flask in the furnace for two hours at that temperature, after which the clasps may be cast.

All types of casting machines, if the casting pressure is not too great, will give good results in connection with this method. It is believed that the proper use of the machine is more important than the type of machine used.

If trouble is experienced with clasps being rough, when this method is followed, first check up to make sure that the flask was left in the furnace at the prescribed heat for two hours. If this was properly done, and providing the model plaster tooth was smooth, the fault will lie in the casting pressure. Use just sufficient pressure to carry the metal into the cavity chamber. Excessive pressure will cause a compression of the plaster model, resulting in a rough clasp.

The use of too large a button for casting will often cause a depression on the inside of the clasp at the point where the sprue is attached. Casting into a relatively cold mould tends to reduce this danger, but where the excess metal in the button has much more bulk than the metal in the clasp, and especially when a centrifugal casting machine is used, the danger of such a condition is present.

When this method is carried out in exact detail, the actual working time of the operator will not be more than seven minutes longer than the quickest method known. The clasps should come out smooth and with a polished appearance.

It is possible to use a smooth artificial stone in place of the plaster for the model. In fact, if time allows, the artificial stone may be found superior to the plaster. The use of stone does not change the technic. In either event, when this method is followed, the model should come from the flasking ring without being greatly injured.

Correspondence is invited with any who may have difficulty with the method.

DENTAL SECRETARIES and ASSISTANTS

Secretaries' Questionnaire

All questions should be addressed to Miss Elsie Pierce, care of THE DENTAL DIGEST, 220 West 42nd Street, New York City.

In the January Questionnaire a letter was published signed "G., Middle West." Following are some of the answers received thereto.

"I read your letter and became enough interested to write you in regard to your work. I lived in a small town in the South most of my life and I knew there could be but very little advancement there, so I came to California about three years ago and have since, as I might call it, 'made good.' If I may make a suggestion, from what you say you can do as to dental laboratory work, etc., I would not advise you to go to a dental college, for in every city there is a great demand for girls in dental offices who can do the laboratory work. Their salaries here range from $20.00 to $30.00, or even more per week. Ordinary office girls who do not know how to do anything but answer the telephone and receive the patients are paid not less than $16.50 per week, as that is the minimum wage law in this State.

"I am sure that it would not be hard for you to get a position in a city, if you just knew someone to take you around to the different offices, etc. If you ever come to ———— I shall be glad to help you . . . I shall be glad to hear from you."

DENTAL ASSISTANT, CALIFORNIA.

"According to your letter, you unquestionably deserve credit for your apparent ability and competency in and around the office and laboratory, and although you are doing things that the Board of Dental Examiners would question, it is evident that you love your work and should take it up more thoroughly in a dental college. Our profession needs good women dentists and dental hygienists.

"As to your wages and prospects, before I can criticize this I must see a photograph of you smiling or laughing. You must remember that what you now possess are only two-thirds of the requirements, as

personal appearance, a good nature, pretty teeth and an eternal laughing disposition are one-third of the requirements. For a girl possessing all these, combined with what you claim you possess, I should be willing to pay $30.00 a week to start, but there are others who perhaps may pay more."

V., California.

"Chair assistants receive from twelve dollars per week and upwards according to the size of the city, demand, and skill of the assistant. If the office has one or two dentists and the assistant is able not only to do the chair assisting but also to do the bookkeeping and laboratory work, her services are correspondingly more valuable. The dentist should consider all these things and pay his assistants accordingly.

"In your own case your pay of $17.00 per week is equal to $25.00 or $30.00 per week in a large city. At the same time, your services ought to be worth more than $17.00 if you discharge your various duties in a satisfactory manner. It might be well for you to have a frank talk with your employer relative to your efficiency and your pay."

Denver, Colorado.

We are in receipt of the following communication regarding the contemplated organization of a National Association for Dental Assistants. This is a worthy movement, so help it along by sending the addresses as requested.

"We are very desirous of securing the names and addresses of the officers of the various societies for dental assistants throughout the country that we may be able to communicate with them regarding the organization of a National Dental Assistants' Association, preliminary plans for which were drafted last September in Cleveland, Ohio, during the convention of the American Dental Association.

"It is the desire of the organization committee appointed at that time to confer with each and every dental assistants' society in the country and for this purpose it is necessary to have the proper names and addresses of the officers. We ask your cooperation and that of your readers to help make this possible.

Very truly yours,

Juliette A. Southard, Chairman,
Organization Committee National
Dental Assistants' Association,
174 West 96th Street, New York City."

We have had several requests for a soldering flux and are glad to submit the following as a suggestion:

Half a dozen level teaspoonfuls of pulverized rosin dissolved in a small bottle of carbona cleaning fluid is a most effective soldering flux.

February Meeting

of the

EDUCATIONAL AND EFFICIENCY SOCIETY FOR DENTAL ASSISTANTS, FIRST DISTRICT, NEW YORK, INC.

Owing to the regular meeting night falling on a holiday, Lincoln's Birthday, the February meeting of the Educational and Efficiency Society for Dental Assistants was held on Thursday, February 7th, at the Academy of Medicine, 17 West 43rd Street, New York City.

The meeting was complimentary to the friends of the Society from New Jersey, and the essayists of the evening were prominent members of the New Jersey State Dental Society. An informal dinner was tendered the speakers prior to the meeting at which Dr. Henry Fowler acted as host for the Society.

A most interesting program was presented by the following: Dr. Chauncey M. F. Egel, of Westfield, N. J., ex-member of the State Board of Dental Examiners, who spoke on "Reciprocity"; Dr. W. H. Gelston of Camden, N. J., ex-president of the New Jersey State Dental Society and member of the House of Delegates of the American Dental Association, who presented as his topic "Temperaments"; Dr. C. E. C. Smith of Newark, N. J., past chancellor of the American Dental Fraternity, who spoke on "Cooperation"; Dr. W. F. Barry of Newark, N. J., ex-president of the New Jersey State Dental Society, who presented "Some Suggestions"; and Dr. R. A. Albray, ex-president of the New Jersey State Dental Society, who chose as his topic "Help Wanted."

The addresses were very interesting and instructive and well received by the large audience assembled, if one could judge by the amount of enthusiastic applause punctuating the speaking. A number of prominent members of the dental profession of both New Jersey and New York attended the meeting. In his remarks Dr. Egel brought to mind that much has been said about the duties of the dental assistant and her responsibilities to her employer, but correspondingly little has been said about the responsibility of the dentist toward the dental assistant. It is a well recognized fact among the dentists who would render to their patients the best service possible that this can be done only by the man who has in his office a competent assistant, or assistants,

who relieve him of all the petty detail duties of the day's routine. How is this able dental assistant to be developed, if not through the interest and cooperation of the dentist, who should teach and advise and make possible opportunities for her to secure greater knowledge so that she may become more efficient? He commended the Society on its efforts to provide the dental assistant with a medium whereby she can secure the training which so many are desirous of obtaining.

Dr. Gelston presented a very able paper on "Temperaments," describing the salient features of the various temperaments as classified: the sanguine, the bilious, the lymphatic, the nervous. Of these four principal temperaments there are many combinations. One should study temperaments as this helps greatly in knowing how to approach and treat the people that one meets from day to day, in business and socially. It enables one to forestall many situations that would prove trying and detrimental to one's welfare. The teeth show distinct characteristics as associated with the various classified temperaments, so this study should be of great interest to those associated with the dental profession as well as to the dentists themselves. A copy of this paper was presented to the society by Dr. Gelston to be placed on file in the library for reference.

Dr. Smith spoke on the value of cooperation in all fields of endeavor for success and stated that nowhere was this more desirable than in the dental office where the comfort and satisfaction of the patient depends so greatly on the smooth running of the daily routine; and this perfection of service depends on the coordination and harmony of the effort put forth by all those associated in the dental office. He praised the work that the Society was doing in bringing to the dental assistant a realization of her responsibilities and the incentive to strive to bring to the calling of her choice all that is worth while and good that she may be of real service to the dental profession in its service to humanity.

Dr. Barry stated that in the old traditional teachings one was told frequently that women know and do things instinctively; he preferred to believe that they had the capacity for thought and judgment. The dental assistant has many opportunities to exercise thought and judgment in her service. Intuition plays but a small part in the realities of one's occupation; an honest effort and a desire to succeed make for success; betterment is the incentive. The dental assistant has many problems and not the least of these is the dentist himself; most men aspire to a successful practice among a high clientele, their office equipment is of the finest, their own technic of the best, but they fail in their organization of effort. It is the job of the competent dental assistant to effect a smooth-working organization, to help the dentist plan his work and then to work his plan. Of course it is understood that $50.00 brains do not come in $20.00 packages and very often there are no

brains at all in stock. The overhead in the development of brains is very high; it takes effort and perseverance. "Educate yourselves and teach the dentist that he can sell your ability."

Dr. Albray spoke of the sort of "Help Wanted" in the dental office. The dental assistant must be fitted for her work and must render the highest possible service or she is not wanted in the office of the progressive, far-seeing dentist. His personnel reflects his judgment, and the patient measures the service he renders by the surrounding conditions of the office. Of course the assistant must possess tact, courtesy and amiability coupled with neatness and cleanliness, and she must also have the ability to do the right thing at the right time. Dr. Albray urged the members to take advantage of the classes offered by the Society, for by contact with others who are striving for greater knowledge, by observation of the procedure of others, and by mental stimulation, so do we grow and profit.

The chairmen of the various classes reported a good attendance and progress. It was announced that the Clinic Club has received several invitations to clinic before state dental and local dental societies. Arrangements have been completed for clinics to be presented before the Second District Dental Society, New York, on March 10th, and during the convention of the New Jersey State Dental Society at Trenton on April 10th and 11th, 1924.

The Program Committee reported on the very successful entertainment and dance given on February 2nd at the Business and Professional Women's Club. The comedy sketch "Dental Office Fantastics" was written and presented by members, as were the songs and dances of the "Futurist Chorus" and the Prologues. Contributing artists rendered piano and vocal selections and dramatic readings.

The president announced the organization of a society for dental assistants in Massachusetts to be known as the Educational and Efficiency Society for Dental Assistants of Massachusetts. The secretary was instructed to send to this new group of progressive dental assistants a letter of greeting and congratulations and good wishes for success.

The annual dinner of the Society will be held at the Hotel Astor on Saturday evening, April 26th, 6:30 P. M. Details of the program are to be announced. The speakers will be men and women of national prominence.

Several new members were welcomed into the Society and a number of names were proposed for membership.

February Meeting

of the

Educational and Efficiency Society for Dental Assistants of Massachusetts

A meeting of the Educational and Efficiency Society for Dental Assistants of Massachusetts was held February 26th in the Chamber of Commerce Rooms, Security Trust Building, Lynn. The meeting was presided over by Mrs. F. E. Jeffrey of Salem, president of the Society, who gave the girls a short talk on the purpose of the Society and the importance of their position, which combines the secretaryship to the doctor and hostess of the office.

She then introduced Dr. M. C. Smith, the dean of the dental profession in Lynn. Dr. Smith, in a few well chosen remarks, welcomed the Society to Lynn and gave the girls a general talk on assisting, he having four girls and three dentists in his office.

Dr. Edwin N. Kent of Boston read a paper on "Scientific Management Applied to a Dental Practice," and Dr. Howard M. Lisle, manager of the Laboratory of the John Hood Company, Boston, gave a short clinic on the "Plaster Model and Bite, and Mounting Same on Plane Line Articulator."

In his paper Dr. Kent brought out the following points: Scientific management, as applied to a business institution, is simply a broadened application of the Yankee characteristic called "horse sense." Its object is increased efficiency, which is accomplished by developing every part of the industrial machine to insure the delivery of a maximum product and profit with a minimum of effort and expense. The most important reform needed in the average dental office to systematize the institution in accordance with the modern industrial scheme is the proper division of labor between the dentist and his assistant; and the first logical move in this direction in a very large number of offices would be the elimination of that demure little schoolgirl type of office assistant who can merely swing the duster and make appointments, and the replacement of this office burden by an efficient secretary who, at a higher salary, becomes a source of profit.

Dr. Kent continued by saying that the main productive labor element is the dentist. When he, for any reason, stops work at the chair, production ceases. His productive value is about equal to that of ten average men in a machine shop. Picture the inconsistency of a system in a ten-man machine shop which required that the entire establishment stand still while the manager wrote a letter, answered the telephone, talked with a supply salesman or made out the monthly bills. And this is exactly the inconsistency that obtains in the dentist's office when he

allows himself to perform any of these duties which may be easily handled by an efficient secretary. All of this involves the necessity of secretarial ability that is not common; and the fact is that the dental practitioner cannot afford to have as an assistant a commonplace person. The average dentist does not realize the value of a secretarial associate who is able to relieve him of a large share of the burden of office management. The best way to convince him is by practical demonstration.

Spring Fever

When the priceless snow is drifting and the sky is bleak and drear, it's consoling and uplifting to reflect that spring is near. Just a few short weeks of weather of a cheap Alaska brand, then the birds will sing together songs we all can understand. I have worked the paying teller till my bank account is gone, putting coal down in the cellar, piling cord wood on the lawn; there are moments when I'm sadder than a voter ought to be, for the blast bites like an adder and the breeze stings like a bee; but I brace up shortly, saying, "It is idle to repine, for the hens will soon be laying and the good old sun will shine. It is idle to be jawing, spring is knocking at the door, and my ears will soon be thawing, and my nose will not be sore." I denounce the weather wizard in unmeasured terms and tones, when he sends the whooping blizzard and I fain would break his bones; but he soon will be relenting and he'll send the helpful breeze, and the roses will be scenting every wind that sweeps the leas. Let the bitter storms be pelting, still I'll gambol, smile and sing; while my whiskers are a-melting I will look ahead to spring.—*Walt Mason.*

EXTRACTIONS

No Literature can have a long continuance if not diversified with humor—ADDISON

Famous last words:—"Watch me pass him at this next curve."

An oldtimer's notion of dressing for dinner was to let his belt out two holes.

The only universal language that seems to find general favor is the squawk of the radio.

(Lady)—We saw the advertisement about this house being for sale and we've come to see it.

(Owner)—Yes, madam; but after reading the ad writer's description of it we have decided not to sell.

"Your husband is an inventor, I believe?"

"Oh, yes! Some of his excuses for staying out late at night are in use all over the world!"

If a laddie has a daddy,
Then he has a friend;
If a daddy has a laddy,
Pleasures never end.
Every dad should guide his laddy
Every way he can,
Then the lad will do his darndest
To be a splendid man.

At any rate Jesse James never raised a hood and tightened a spark plug and charged $3.85.

"And you are 95 years old!" she exclaimed. "How wonderful! You look so well. How have you managed to do it?"

"My method is very simple. I never let any of my friends know when I am not feeling well; consequently I've never had to take any of the things they would have recommended if they had known I was ailing."

(Willie)—Say, Pop, what's the difference between a drama and a melodrama?

(Pop)—In a drama the heroine gives the villain the gate. In a melodrama she throws him over a cliff.

Whichever way the wind doth blow,
Some heart is glad to have it so;
So blow it east, or blow it west,
The way it blows, that way is best.

Only in California's wonderful climate could a movie hero's pants regain their crease just one minute after a plunge into a raging torrent.

(Hubby—a practical joker)—Now, my dear, don't get frightened, but I have something startling to tell you. I'm sure I'll never get over what I saw last night!

(Wifey—visibly alarmed)—Gracious! What was it?

(Hubby)—The moon.

A prudent man is one who has his blood pressure determined before reading little Willie's report card.

Don't get discouraged. The civilized nations are those that owe more money than they can pay.

(Jimmy—writing his grammar lesson)—Hey, Tommy, is trousers singular or plural?

(Tommy)—Deys singular on top and plural at the bottom.

(The Victim)—I want to look at some leather brief cases.

(The Clerk)—Yes, sir; I can show you some very attractive ones divided into quart size compartments.

We hold these truths to be self-evident, that all men, women and children are created with an equal Chance to enjoy themselves, that they are endowed with certain inalienable Rights and Lefts and that they ought to use them if they are not granted Life, Liberty and the Pursuit of Happiness.

Some people must buy spare parts from a garage man, and some live near a railroad crossing.

Bishop Phillips Brooks was one day dining at a Washington hotel, and when he came out the colored man at the hat rack promptly handed him his hat without taking any check for it.

"How did you know that was my hat?" asked the astonished bishop.

"I didn't know it was yo'r hat, sah," said the man.

"What? Then why did you hand it to me?"

"Because it's the one yo' lef' with me, sah," answered the dark attendant.

DIETETICS and HEALTH

Fruit a Necessary Part of Your Diet

In remote antiquity when our ancestors were less sophisticated than present-day mankind, the human race was no doubt able to choose its food without consulting diet lists or entrusting catering to the care of trained dietitians. Alas, our instinct has atrophied and we are forced to look about for external guidance. The problem is greatly complicated through the pressure of economic difficulties, not to mention special evils such as deterioration of foodstuffs or alteration of their properties through storing and canning, or even wilful adulteration.

No one can maintain that we are yet secure against these pitfalls of civilization, says the "International Journal of Medicine and Surgery," though it is true that the light of knowledge has dispelled some of the darkest shadows. We are beginning to appreciate the significance of vitamins, we can prevent scurvy and can use pasteurized milk with impunity. This, however, does not in any way diminish the urgent need for preaching the need for better general instruction in the fundamental laws of our dietetic requirements. There is still too much of the attitude "my mother used to do this, so it must be right" or "I am the housewife, therefore I know." The results of the get-the-dinner-while-you-wait habit are well-known to all physicians.

Quite a different set of troubles arise through economic difficulties in obtaining the right ingredients or sufficient variety for the wholesome mixed diet. Unfortunately it so happens that carbohydrate foods are among the cheapest and, at the same time, the most popular components of the average diet of the wage-earning population. According to a computation emanating from the Equitable Assurance Society, 374 per cent more sugar is now consumed than two generations ago on account of its "tastiness" and cheapness. These alterations in the public fare are bound to be factors in the growing incidence of diabetes and the ever-increasing mortality from degenerations of the cardio-renal systems, which have to bear the brunt of the burden imposed upon the vital organs by obesity and other results of disordered metabolism.

Surely, there is high time to impress upon the public at large the importance and necessity of increasing the use of vegetables and fruit

in the daily diet. The failure to utilize these valuable products to the fullest possible extent is particularly absurd, since our country is so abundantly blessed with soil and climate for the growth of enough and to spare for all her children, particularly of the precious citrus fruits. Surely there is a fine opportunity for the medical profession to bring home this point to every man, woman and child. If the task is not accomplished by the accredited guardians of the nation's welfare, we shall once more add fuel to the fires fanned by the detractors of the medical profession.

The fact that the most fertile regions of the country are fast becoming covered with citrus fruit plantations, guarantees an unlimited and permanent supply of these fruits. There is hardly any need to stress here their value from a health point of view. They have assumed the position of a national breakfast food, so much so that Americans can always be recognized on board ship or in restaurants abroad by their grapefruits and orange juice drinks. The medical profession has adopted them for extensive use in the diet of the sick. Their chief properties viewed from this angle are the absence of irritation to digestive or renal systems, the food value, and the presence of vitamins. The organic acids of the fruit are, of course, converted into alkalies by the body and thus help to maintain the normal reaction of the urine during sickness.

It seems a wise plan to accustom the young to consider fruit a fitting reward for excellence and for presents rather than the proverbial "box of candy" or piece of cake. In this way the tendency to overindulgence in carbohydrate foods will be counteracted for the benefit of the wage-earning population, as well as the whole nation.

FUTURE EVENTS

The next meeting of the NEW YORK STOMATOLOGICAL SOCIETY will be held at 3 o'clock, on Monday afternoon April 28, 1924, at Aeolian Hall, Suite 1442, New York City.

Dr. F. W. McDonald will present a paper on "The Efficient Practice of Stomatology." Clinics will be held by members following discussion.

We are unable to set a definite date for the delivery of Dr. Bell's lecture on "Reform Diet" until his return from abroad.

Dr. Alfred Asgis, President
Dr. Stanley Slocum, Secretary
597 Fifth Avenue, New York

THE CLASS OF 1904 OF THE UNIVERSITY OF MARYLAND, DENTAL DEPARTMENT, will hold a reunion celebrating its twentieth anniversary, at the annual meeting of the Maryland State Dental Association which will be held at the Southern Hotel, Baltimore, May 5-7, 1924.

WALTER E. GREEN, *Treasurer*,
Baltimore City Dental Society.

THE MASSACHUSETTS DENTAL SOCIETY extends a cordial invitation to all members of recognized Dental Societies to attend its sixtieth Annual Meeting. The meeting will be held at the Copley Plaza Hotel, Boston, Massachusetts, May 6-9, 1924.

Application for tickets to the teaching clinics may be had by writing to Dr. W. Vernon Ryder, Secretary, 175 Newbury Street, Boston, Massachusetts.

THE MASSACHUSETTS DENTAL HYGIENISTS ASSOCIATION will hold its Second Annual Meeting at the Copley Plaza Hotel, Boston, May 7 and 8, 1924, in connection with the Massachusetts State Dental Society meeting.

All dental hygienists in the state are urged to attend, and a cordial invitation is extended to those of other states.

ESTHER B. RUSSELL,
Publicity Committee.

The tenth annual meeting of the CONNECTICUT DENTAL HYGIENISTS' ASSOCIATION will be held on May 17 and 18, 1924, at the Old State House, Hartford, Connecticut.

C. LOUISE HARRIS, *Secretary*,
215 Whitney Ave., New Haven, Conn.

The next examination to be given by the DENTAL BOARD OF IOWA will be held in the College of Dentistry, Iowa City, Iowa, beginning at 9 A. M., Monday, May 26th, 1924.

An examination for Dental Hygienists will be given.

For further information and application blanks address

DR. C. B. MILLER, *Secretary,*
726 Fleming Building, Des Moines, Iowa.

The annual convention of the ONTARIO DENTAL SOCIETY will be held at the King Edward Hotel, Toronto, May 26 to 29, 1924. An excellent programme has been arranged and a record attendance is assured.

FRED J. CONBOY, *President.*

The next meeting of THE BOARD OF DENTAL EXAMINERS OF THE STATE OF WYOMING will be held at Powell, Wyoming, for the examination of dentists and dental hygienists, on the 23rd, 24th and 25th of June, 1924. For further information and application blanks, address

THEW J. ICE, *Secretary,*
Lock Box 116, Powell, Wyoming.

THE CONNECTICUT DENTAL COMMISSION will meet at Hartford, Connecticut, on June 26th, 27th and 28th, 1924, to examine applicants for license to practise dentistry and dental hygiene, and to transact any other business proper to come before them. For further information apply to Dr. Arthur B. Holmes, Recorder, 43 Central Avenue, Waterbury, Connecticut.

THE CANADIAN DENTAL ASSOCIATION will hold its next Convention in Vancouver, B. C., during the week of August 4, 1924.

The local Committees, under Dr. W. J. Bruce, Chairman of Executive, Birks Building, Vancouver, are arranging an interesting program. As the meeting takes place in the summer vacation, any dentist planning a trip through the Great West or to the Pacific Coast would be well advised to make this his objective.

Information regarding reduced railway fares and routes of travel can be secured from Dr. C. A. Kennedy, 86 Bloor Street, W., Toronto.

President, Dr. S. W. Bradley, Ottawa, Canada.

Secretary-Treasurer, E. A. Grant, 240 College Street, Toronto, Canada.